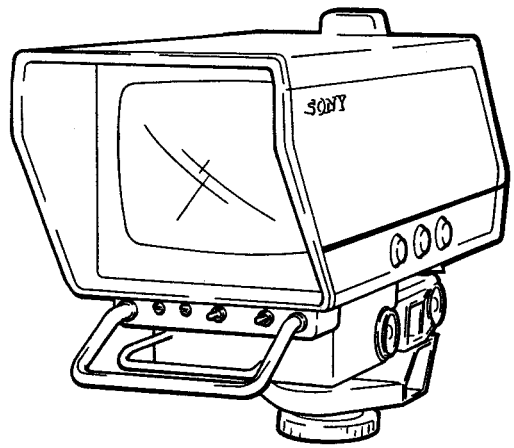
DXF-50B/50BJ/50BCE

SERVICE MANUAL

DXF-50B
Chassis No. SCC-328-A
DXF-50BJ
Chassis No. SCC-327-A
DXF-50BCE
Chassis No. SCC-329 CA



SPECIFICATIONS

Picture tube	5 inch monochrome 70-degree deflection
Video signal	EIA standards (50B) CCIR standards (50BCE)
Scanning system	2:1 interlace 525 lines (50B) 625 lines (50BCE) 5% underscan Horizontal linearity: less than 3% Vertical linearity: less than 3%
High voltage	8.5 kV
Horizontal resolution	More than 600 lines (at center), more than 500 lines (at edges)
Frequency response	−3 dB at 10 MHz
Connectors	DIN 8-pin connector Video input: 1 V (p-p) negative sync, 1 kilohm Power supply: 12 V dc
Power consumption	10 W
Operating temperature	−10°C to 50°C (14°F to 122°F)
Dimensions	approx. 145.5 × 167 × 292 mm (w/h/d) (5¾ × 6⅝ × 11½ inches) including projecting parts and controls approx. 145.5 × 228 × 292 mm (w/h/d) (5¾ × 9 × 11½ inches) with stand
Weight	approx. 2.2 kg (4 lb 14 oz) approx. 3.1 kg (6 lb 14 oz) with stand
Accessories supplied	Stand (1) Screws (4)

Design and specifications are subject to change without notice.

ELECTRONIC VIEW FINDER

SONY®

概 略 仕 様

ブラウン管	5型モノクローム, 70度偏向
	大きさ : 10.99×8.49cm (幅×高さ)、
	12.73cm (対角線径)
信号方式	EIA標準
走査	2 : 1 インターレース、525本
	5%アンダースキャン
	水平リニアリティ 3%以下
	垂直リニアリティ 3%以下
高圧	8.5kv
解像度	600本以上 (センター)、500本以上 (コーナー)
周波数特性	-3db (10 MHz時)
接続端子	DIN8ピンコネクター
	映像入力 : 1V (p-p) 同期負、1kΩ
	電源 : DC 12V
消費電力	10W
動作温度	-10℃～50℃
最大外形寸法	145.5×167×292mm (幅／高さ／奥行き)
	145.5×228×292mm (幅／高さ／奥行き)
	雲台取り付け時
重量	2.2kg
	3.1kg 雲台取り付け時
付属品	雲台 (1)、取り付けねじ (4)

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

ATTENTION AUX COMPOSANTS RELATIFS ÁLA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MAPQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES CONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

SAFETY CHECK-OUT

(US Model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.

2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.

3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.

4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair Point them out to the customer and recommend their replacement.

5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.

6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.

7. Check the condition of the monopole antenna (if any). Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.

8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.

9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

サービス,点検時には次のことにご注意ください。

1. **注意事項をお守りください。**
サービスのとき特に注意を要する箇所については,キャビネット,シャーシ,部品などにラベルや捺印で注意事項を表示しています。これらの注意書き及び取扱説明書等の注意事項を必ずお守りください。

2. **感電にご注意を**
シャーシに交流電圧が印加されているセットは通電時にシャーシに触れると感電することがあります。従って,通電サービス時には,絶縁トランスの使用や手袋の着用,部品交換には差し込みプラグを抜くなど感電にご注意ください。内部には高電圧の部分がありますので通電時の取扱いに際してはご注意ください。

3. **指定部品のご使用を**
セットの部品は難燃性や耐電性など安全上の特性を持ったものとなっています。従って交換部品は,使用されていたものと同じ特性の部品を使用してください。特に回路図,部品表に ⚠ 印で指定されている安全上重要な部品は必ず指定のものをご使用ください。

4. **部品の取付けや配線の引き回しはもとどおりに**
安全上,チューブやテープなどの絶縁材料を使用したり,プリント基板から浮かして取付けた部品があります。また内部配線は引きまわしやクランパーによって発熱部品や高圧部品に接近しないよう配慮されていますので,これらは必ずもとどおりにしてください。

5. **ブラウン管交換時の注意**
ブラウン管を交換したり,フライバックトランスを交換する前には,必ずブラウン管のアノードボタン(端子)及びアノードキャップの高圧端子をCRTシールド,CRTカーボン部にアースしてください。

6. **ブラウン管の取扱いは丁寧に**
防爆形ブラウン管はセットに取付けられた状態では爆縮に対して安全が確保されています。しかし取外した場合や背面からサービスする際,コーン部に衝撃を与えると危険です。取扱いには十分ご注意ください。

7. **X線についてのご注意**
X線に対しては,ブラウン管,高圧周辺回路等に配慮し安全を確保しています。従って高圧周辺回路を修理する時はブラウン管など指定の部品を使用し,回路変更は絶対に行わないでください。指定以外の修理は高圧が上昇し,ブラウン管からX線が発生することになります。

8. **サービス後は安全点検を**
サービスのために取外したネジ,部品,配線がもとどおりになっているか,またサービスした箇所の周辺を劣化させてしまったところがないかなどを点検し,さらにアンテナ端子その他外部金属部と差し込みプラグの刃の間の絶縁チェックを行うなど,安全性が確保されていることを確認してください。
(絶縁チェックの方法)
電源コンセントから差し込みプラグを抜き,アンテナを外し,電源スイッチを入れます。500V絶縁抵抗計〔注1〕を用いて,差し込みプラグのそれぞれの端子と外部露出金属部との間で,絶縁抵抗値が1MΩ以上であること。この値以下の時はセットの点検修理が必要です。

〔注1〕 やむをえず500V絶縁抵抗計が手持ちにない場合はテスターを用いて点検してください。

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SECTION 1
OPERATION

1-1. FEATURES

- High-resolution picture tube. Horizontal resolution is over 600 lines.
- H/V regulator makes for a stable picture under all conditions.
- Center cross hairs (+) adjustable left/right and up/down make it easy to frame the shot.
- TALLY lamp indicates whether the automatic functions of the camera are adjusted or not, as well as indicating the usual camera selection.
- Water-resistant.

1-2. PRECAUTIONS

On safety

- Do not use the unit in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Do not use the viewfinder outside the temperature extremes of −10°C to 50°C (14°F to 122°F).
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.

On installation

- Allow adequate air circulation to prevent internal heat build-up.
- Do not expose the unit to the extremely high temperature and humidity.

On cleaning

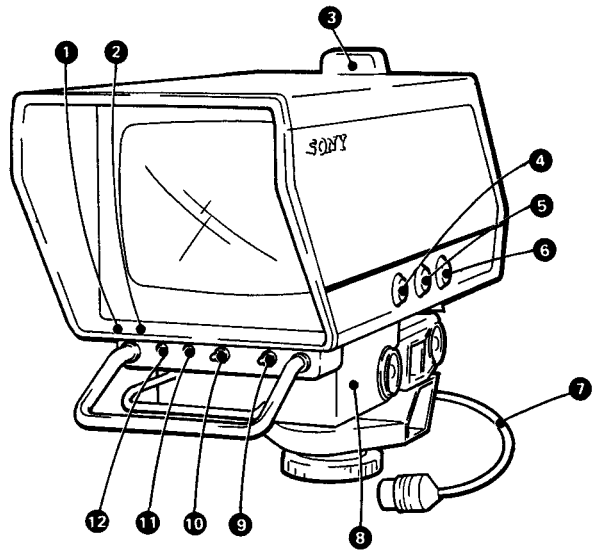
Periodically clean the screen glass with a soft, lint-free cloth.

On repacking

Do not discard the carton. It affords maximum protection whenever the unit is transported.

If there are any questions about operation or performance, contact your nearest Sony authorized VTR service station or Sony VTR factory service center.

1-3. LOCATION AND FUNCTION OF PARTS AND CONTROLS



❶ TALLY lamp (red)
Lights during camera recording.
Also lights for about 5 seconds when the automatic functions, such as centering and white/black balance, have been adjusted.
Blinks for about 5 seconds when the automatic adjustments cannot be made because of inappropriate subject or camera malfunction.

❷ BATT (battery) lamp (red)
Lights when the connected camera is turned on.
Blinks when the battery pack in the camera is running out.
Goes off when the battery pack is exhausted.

❸ External tally lamp (red)
Functions the same as the TALLY lamp on the viewfinder screen. If this lamp is not required, set the TALLY switch to OFF.

These three controls are for adjusting the picture on the viewfinder screen. The camera recording will not be affected.

❹ BRIGHT control
Adjusts the picture brightness.

❺ CONTR (contrast) control
Adjusts the picture contrast.

❻ PEAKING control
Adjusts the picture sharpness.

❼ 8-pin camera connector
Accepts power, video and tally signals when connected to the VF jack of the camera or the camera control unit.

❽ Viewfinder stand (supplied)
Attach to the viewfinder in order to install on the accessory shoe of the camera.
The viewfinder angle is adjustable (panning and tilting.)

❾ TALLY switch
Turns on and off the external tally lamp which is located on the back of the viewfinder.
ON: The external tally lamp turns on and off with the camera mode.
OFF: The external tally lamp does not light regardless of the camera mode.

❿ CENTER MARK switch
ON: The "+" mark appears on the screen.
Put this mark on the main subject.
OFF: The mark disappears.

Turn the controls with a screwdriver to adjust the "+" position, if necessary.

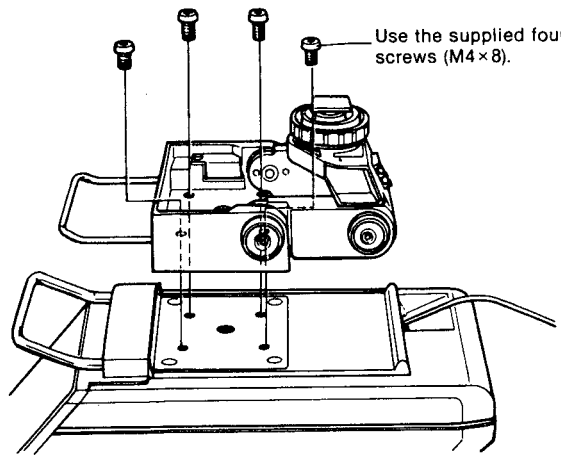
⓫ V (vertical) control
The mark moves up and down approximately ¼ inch.

⓬ H (horizontal) control
The mark moves left and right approximately ¼ inch.

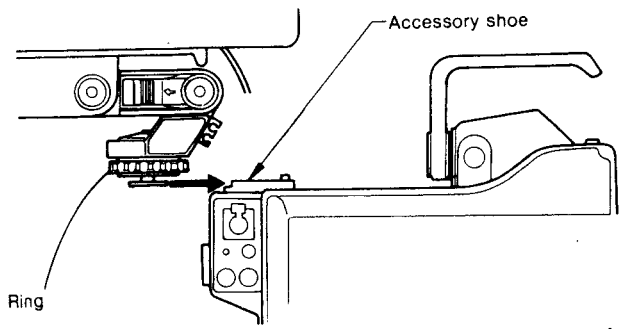
1-4. ATTACHMENT AND CONNECTION TO THE CAMERA

—Turn off the power to the camera, and then proceed as follows.—

1 Attach the supplied stand to the bottom of the viewfinder.

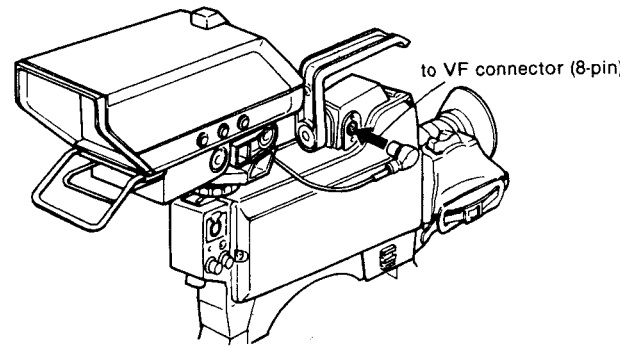


2 Slide the bottom plate of the stand into the accessory shoe of the camera. Then tighten the ring.



The viewfinder can also be attached so that the screen faces the subject, if desired.

3 Connect to the camera.

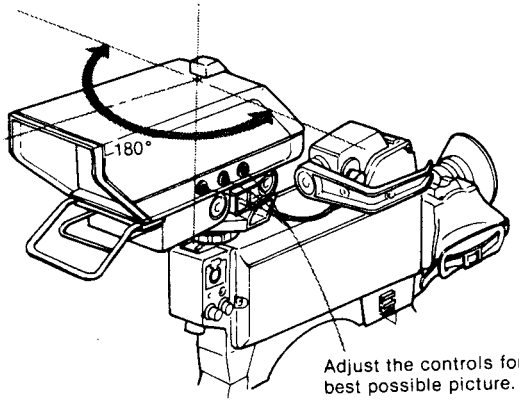


1-5. OPERATION

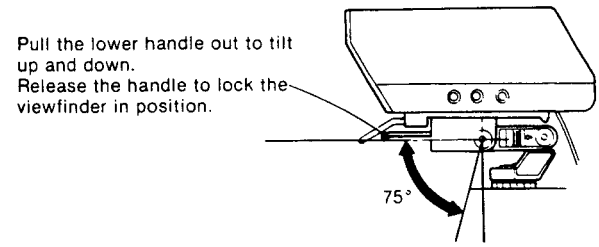
Turn on the camera (or the camera control unit), and the power is automatically supplied to the viewfinder. The picture will appear in several seconds.
Note: If the BRIGHT control is turned fully to the left, the picture may not appear.

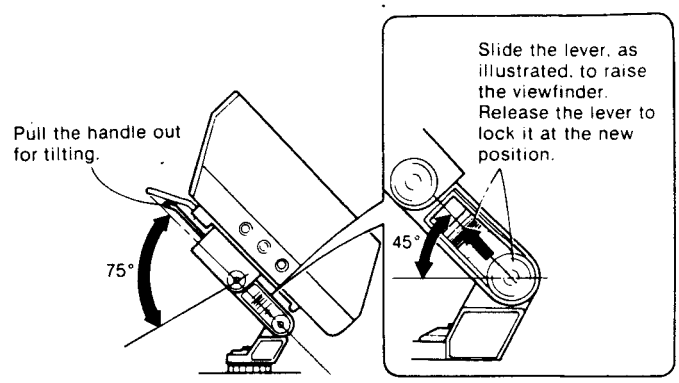
Adjust the viewfinder stand to the appropriate angle and height.

Panning



Tilting





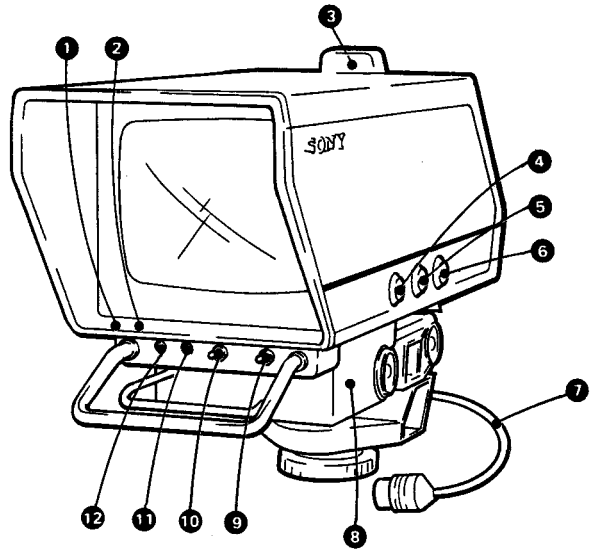
For details, refer to the camera's or the CCU's instruction manual.

1. 取り扱い操作

1-1. 特長

- 高性能ブラウン管を採用し、高解像度を達成。水平解像度は600本以上です。
- 高圧安定回路により、画面の明るさや暗さに関係なく、ひずみの少ない安定した画像が得られます。
- 上下左右に位置を調節できるセンターマーク付きで、画像の中心が簡単に合わせられます。
- カメラ側の調整（センタリング、ホワイト／ブラックバランス）が完了したかどうかを、TALLYランプが知らせます。
- 防滴構造のため、戸外でも安心して使えます。

1-2. 各部の名称と働き



❶TALLY(タリー)ランプ(赤)

カメラ録画中、点灯します。

カメラ側でセンタリングやホワイトおよびブラックバランスの自動調整が完了すると5秒間点灯します。被写体が不適当な場合や、カメラの自動調整機構が正常に動作しない場合などで、調整ができないときは、5秒間点滅します。

❷BATT(バッテリー)ランプ(赤)

カメラに電源を入れると点灯します。

カメラのバッテリーが消耗してくると点滅して知らせます。

バッテリーが消耗してしまうと、ランプは消えます。

❸タリーランプ(赤)

TALLYスイッチがONで、カメラ録画中に点灯します。

❹BRIGHT(ブライトネス)つまみ

画面の明るさ(輝度)を調整します。

暗くなる　明るくなる

❺CONTR(コントラスト)つまみ

画面のコントラストを調整します。

コントラストが弱くなる　コントラストが強くなる

❻PEKING(ピーキング)つまみ

画像の輪郭を調整します。

ソフトな画像　シャープな画像

3つのつまみはビューファインダーの画面の調整用です。

カメラ側の信号には影響ありません。

❼8ピンコネクター

カメラ、あるいはカメラコントロールユニット(CCU)のVF端子に接続し、映像信号、タリー信号、電源を受けます。

❽雲台

ビューファインダーに取り付けてから、カメラのアクセサリーシューに取り付けます。

ビューファインダーの向きを上下左右に変えられます。

❾TALLY(タリー)スイッチ

後面のタリーランプをON/OFFします。

ONにすると、カメラ側の動作でランプがついたり、消えたりします。

OFFにすると、カメラ側の動作に関係なく、ランプは点灯しません。

❿CENTER(センター) MARK(マーク)スイッチ

ONにすると画面中央に"+"(センターマーク)が現れます。

中心になる被写体をこのマークに合わせます。

OFFにするとマークは消えます。

⓫V(垂直)(バーティカル)コントロール

"+"マークを上下に約5mm移動できます。

下に動く　上に動く

⓬H(水平)(ホリゾンタル)コントロール

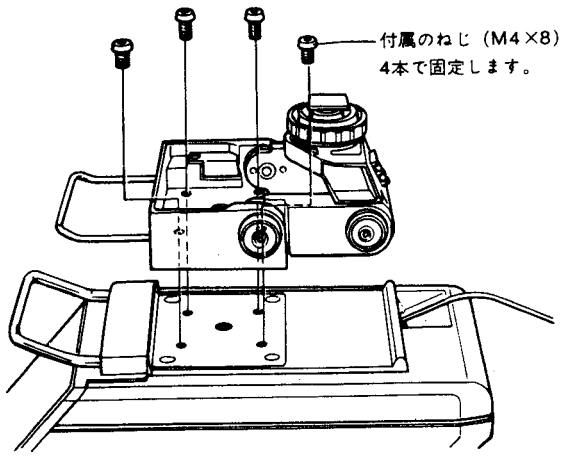
"+"マークを左右に約5mm移動できます。

左に動く　右に動く

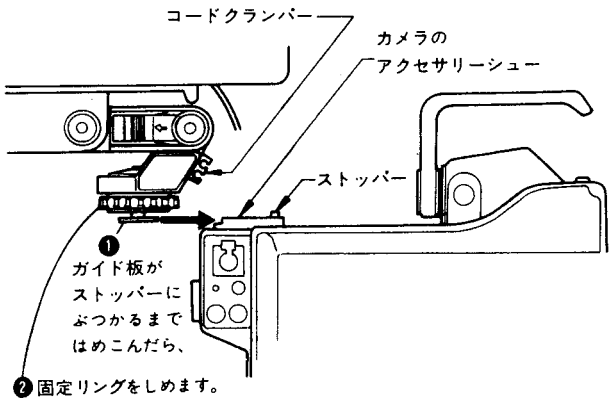
必要に応じて市販のマイナスドライバーで調節します。

1-3. カメラへの取付けと接続

1 ビューファインダー底面に、付属の雲台を取り付けます。

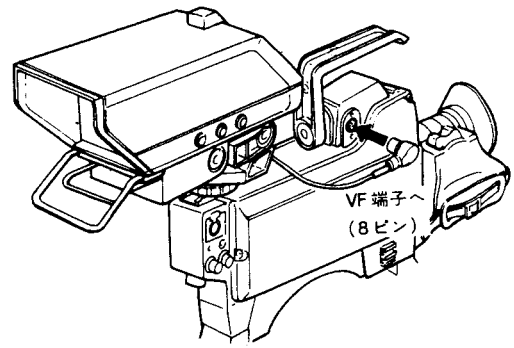


2 カメラのアクセサリーシューに、雲台を固定します。



スクリーンを被写体方向に向けて取り付けることもできます。

3 接続します。



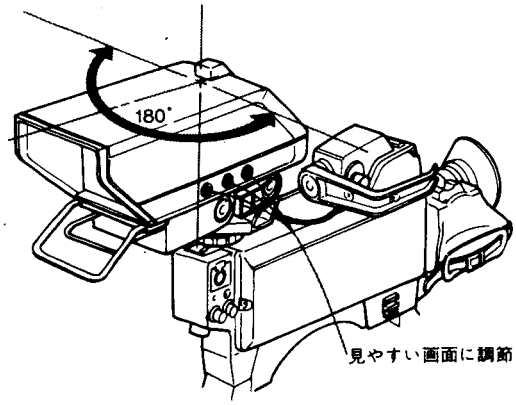
1-4. 使いかた

カメラ(あるいはCCU)の電源を入れると、ビューファインダーへも電源が供給され、10数秒たつと画像が現れます。

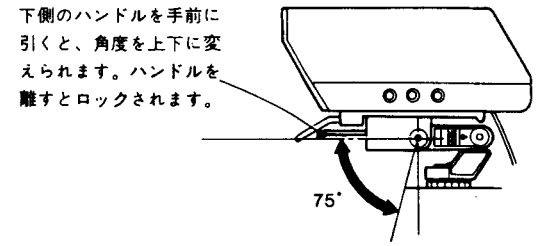
ご注意：BRIGHTつまみが左いっぱいになっていると、画像が出ません。

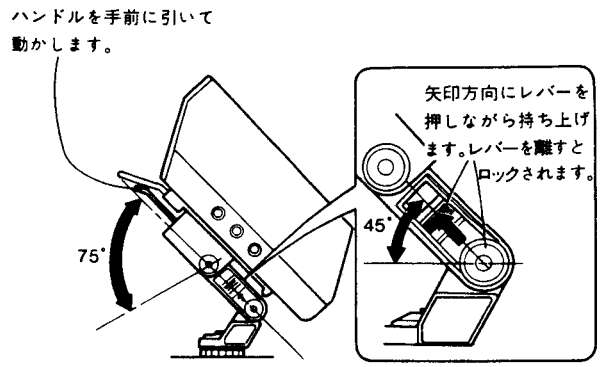
ビューファインダーの向きや高さを、使いやすいように調節してください。

パンニングの角度



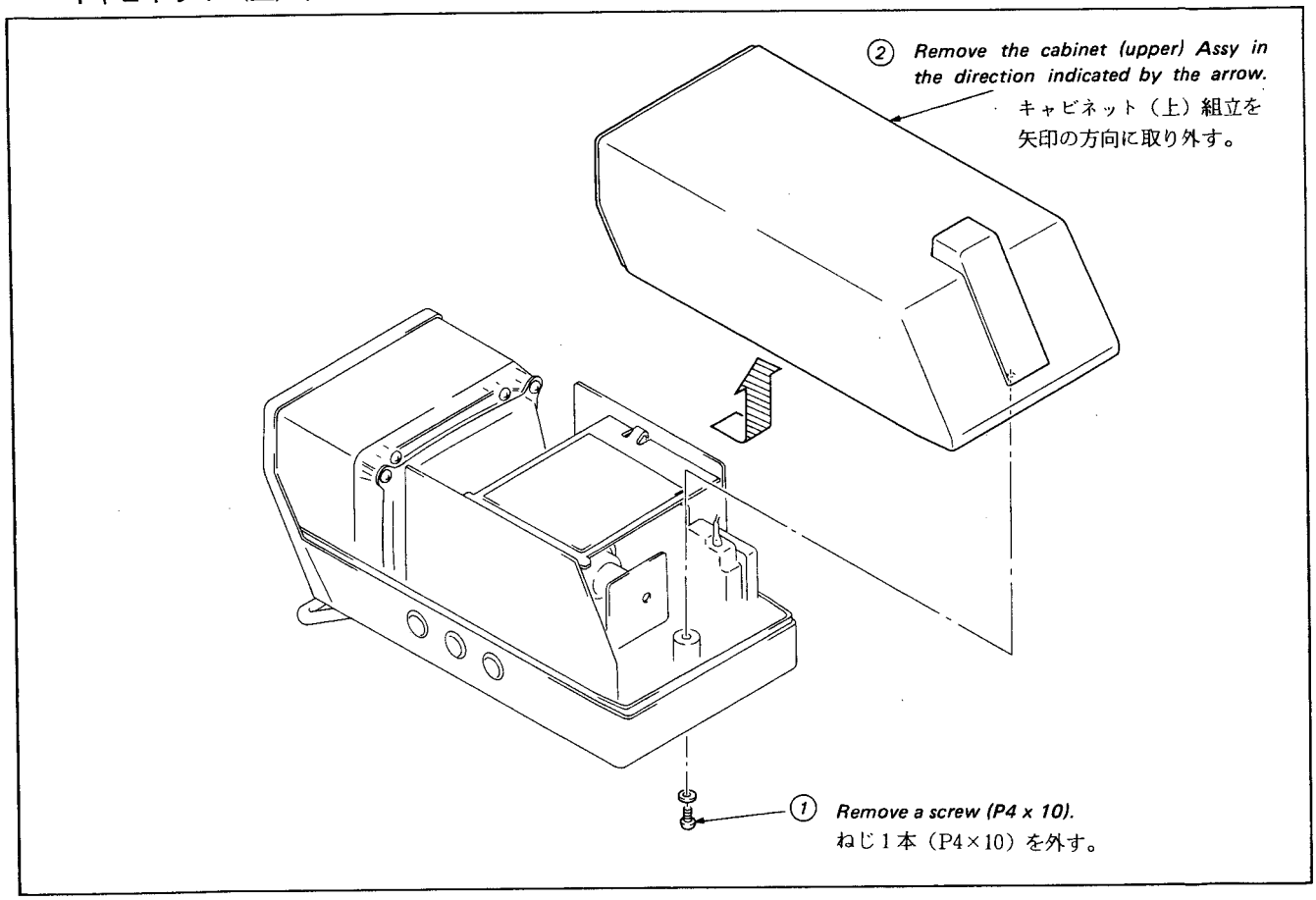
ティルティングの角度



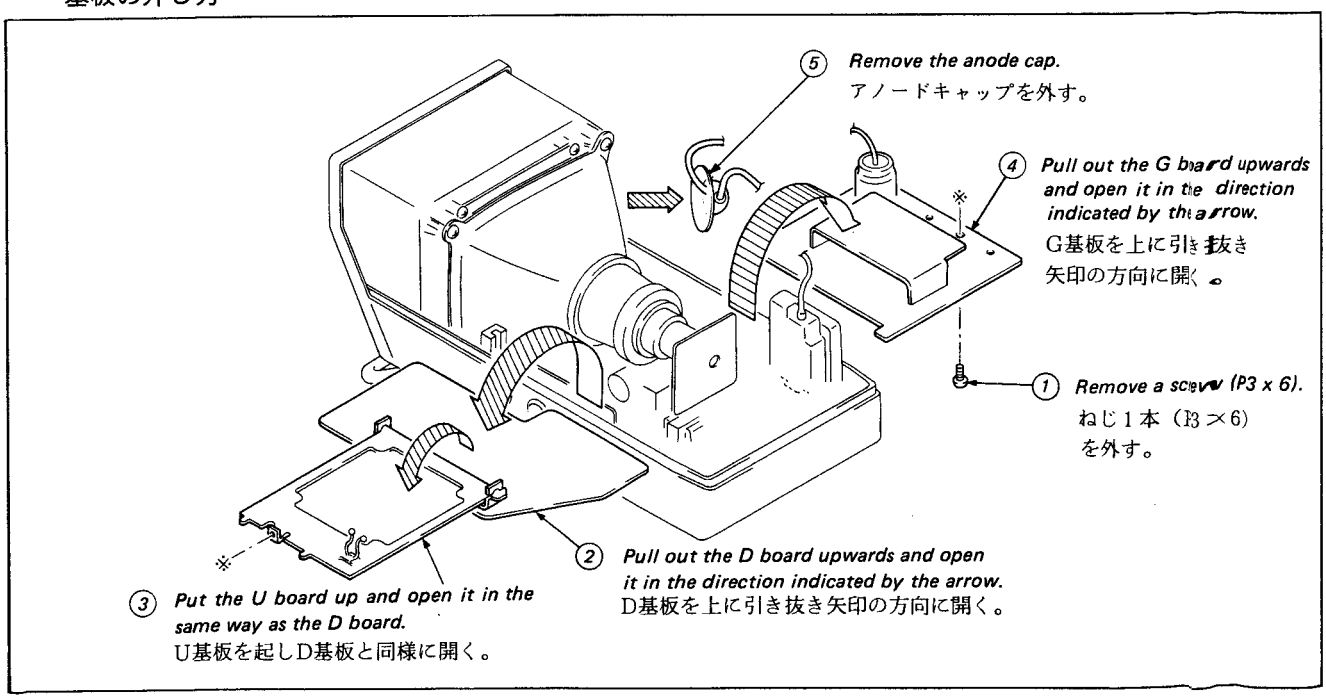


SECTION 2
DISASSEMBLY
2. 外し方

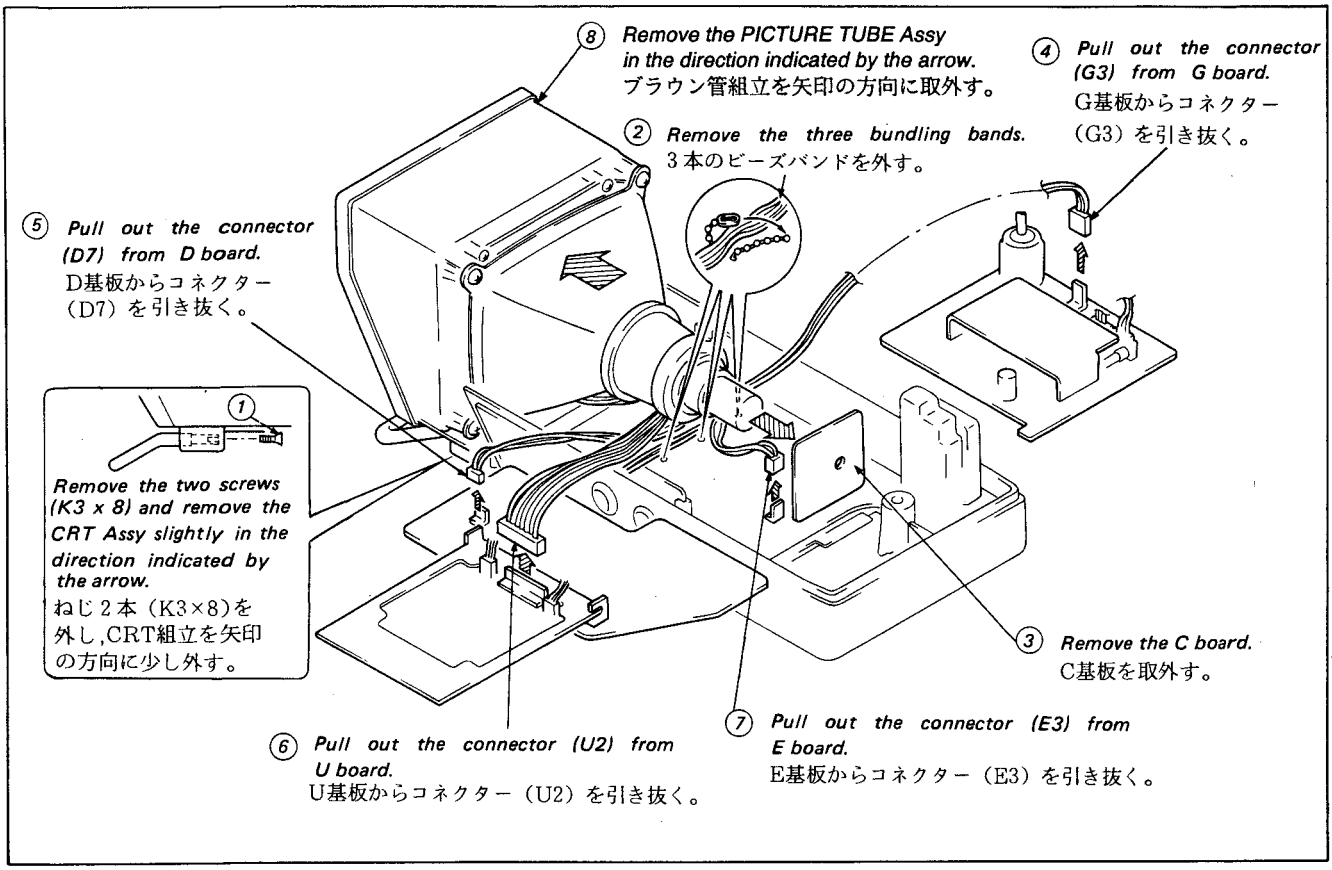
2-1. REMOVAL OF CABINET (UPPER) ASSY
キャビネット（上）組立の外し方



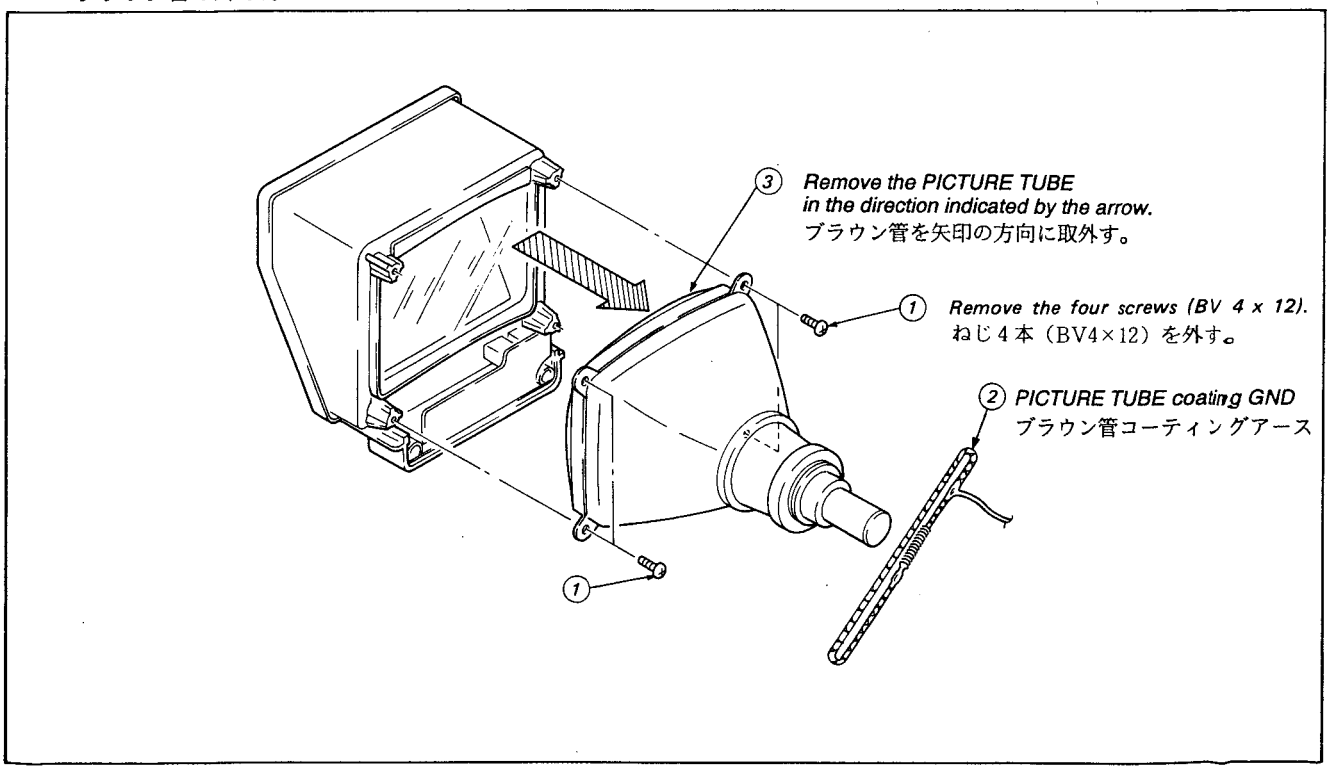
2-2. REMOVAL OF BOARD
基板の外し方



2-3. REMOVAL OF CONNECTOR
コネクターの外し方



2-4. REMOVAL OF PICTURE TUBE
ブラウン管の外し方



SECTION 3
CIRCUIT DESCRIPTIONS

3-1. VIDEO AMPLIFIER

The video signal at D1 pin ①on the D board is fed to transistors Q301 and Q302 constituting an amplifier with an amplification factor of 12 dB, the amplifier gain is controlled by contrast adjuster RV902. The video signal with an amplitude set by adjuster RV902 is fed through both video amplifier Q303 and video buffer Q305 to video output stage Q401. The video signal, which has been fed from transistor Q401, appearing at D3 pin ⑤ on the D board is fed to the cathode of CRT.

3-2. SYNC SEPARATOR, H. DEFLECTION AND HIGH-VOLTAGE CIRCUITS

When the video signal is applied to contrast adjuster RV902, it is also applied to the base of collector follower Q501 used as a synchronizing signal component separator. Only the synchronizing signal component which can be obtained by transistor Q501 is fed to pin ① of IC501. The obtained synchronizing signal appears at pin ② of IC501. A pulse signal for use in vertical deflection appears at pin ① of IC551 while another pulse signal for use in horizontal deflection is fed to video clamper Q306. A horizontal pulse signal appearing at pin ③ of IC551 is fed to the phase detector so as to detect the phase difference from the synchronizing pulse. The phase difference voltage appears at pin ④ of IC551. Horizontal deflection can be established by controlling the reference voltage for horizontal oscillation with adjuster R511 (27 kΩ).

A sawtooth wave signal voltage at pin ⑧ of IC551 has an inclination determined by capacitor C511 (0.0022 μF).

A horizontal drive pulse with an amplitude of approx. 22Vp-p appears at pin ⑦ of IC551. It is fed to transistor Q801 through transformer T801 and Q801 is used to generate a horizontal drive pulse with an amplitude of approx. 100 Vp-p. Horizontal converter Q802 is used to drive flyback transformer T803 which can be used to supply the anode, screen grid and suppressor grid of CRT with power. The secondary winding on the horizontal drive transformer supplies power to the heater and high-voltage electrodes through the high-voltage power regulstor. A dumper diode D801 across the primary winding on the horizontal drive transformer is used to cause the deflection current to satisfactorily flow through the deflection yoke at pin ④.

The high-voltage at approx. 8.5 kV is shunted by 300 MΩ within the flyback transformer and R817 (3.3 MΩ), and the shunted voltage appears at pin ② of comparator IC801.

Diode D807 is connected to pin ③ of IC801 and it is used to provide a reference voltage at 5.6V. A voltage at pin ⑥ of IC801 is inverted into the high-voltage. When the high voltage increases, the output at pin ⑥ decreases to control the transistor Q803, lower the high voltage and keep the high voltage constant. The power regulator for the flyback transformer, which consists of transistors Q803 and Q804, keeps the transformer input-voltage unchanged.

3-3. V. OSCILLATOR AND V. DEFLECTION CIRCUIT

A negative-going pulse voltage with an amplitude of 9.0 Vp-p, which is fed from the sync separator, is fed to pin ① of IC551 (AN5763). First, set this voltage at a frequency much lower than 60 Hz by using RV551 and then increase the frequency by using RV551. It can be pulled in when the frequency becomes approx. 60 Hz. Cut the vertical synchronizing signal and measure free oscillation frequency f_{VL}. Next, set this voltage at a frequency much higher than 60 Hz by using RV551 and then decrease the frequency by using RV551. It can be pulled in when the frequency becomes approx. 60 Hz. Cut the vertical synchronizing signal and measure free oscillation frequency f_{VH}.

Note that $fp(V) = f_{VH} - f_{VL}$ is valid for 90.8 kΩ of RV551. Vetrical oscillation continues under the above conditions. A sawtooth wave signal is amplified with IC551, and the vertical sawtooth wave signal at pin ⑧ of IC551 is fed to the vertical deflecting coil.

3-4. CENTERING MARKER

The output of monostable multivibrator IC301 is triggered (at pin ⑫) by the vertical sync signal generator flip-flop. The output voltage at the Q terminal (pin ⑩) of this flip-flop is fed to the CLEAR terminal (pin ⑫) of binary 12-stage ripple carry counter IC303 and the horizontal sync signal is fed to the CLOCK terminal (pin ⑩) of IC303. The horizontal line is generated (at pins $\overline{③}$, ⑤, ⑥, ⑦, ⑨ + ②, ④, $\overline{⑬}$) by using IC303 and the window signal (at pins ②, ④, ⑬ through ⑤) by using IC303.

The output of IC302 (pin ⑤) is triggered by the horizontal sync signal generator flip-flop. The output voltage at the $\overline{Q}$ terminal (pin ⑦) of this flip-flop is used to trigger monostable multivibrator IC303 for use in generating the horizontal line and window.

3-5. HIGH-VOLTAGE POWER REGULATOR

A high voltage at 8.5 kV is shunted by R817 and a 300 MΩ resistor within flyback transformer T803, and then it is fed to pin ② of operational amplifier IC801. The DC voltage at pin ③ of IC801 is kept unchanged by using Zener diode D807, and a high-voltage with negative-going polarity appearsat pin ⑥ of IC801.

A signal voltae at pin ⑥ of IC801 is amplified with transistor Q804, and the output voltage of the flyback transformer is kept unchanged by using transistor Q803.

3-6. 9.5V SWITCHING REGULATOR

A DC input voltage in the range of 10.5V to 17V from G-1 pins ① and ② on the G board is fed to the emitters of transistors Q601 and Q602. A change in the voltage across inductor L601 is read by using IC601, and a pulse width change from oscillator IC601 operating at 42 kHz can occur in accordance with the output of IC601. The pulse signal voltage is then amplified with transistor Q603. Transistors Q601 and Q602 are switched in accordance with the timing of the above signal. That is, the off-time becomes longer as the voltage at Q603 increases, and it becomes shorter as the voltage at Q603 decreases. A DC voltage of 9.5 volts appears across G-2 pins ③, ⑤ and ⑦ on the G board. The voltage can be set unchanged by using 9.5V adjuster RV601.

3-7. LAMP CIRCUIT

Switching transistor Q604 controls LED D301 used as a tally lamp, and also exernal tally lamp PL901. Switching transistor Q605 controls LED D302 used as a battery alarm. The LED and other lamp can flash under the control of the external control signal.

3. 回路説明

3-1. 映像増幅回路

映像信号はD基板D1，①端子を通しQ301，302 にて12dB増幅されたのちコントラスト・コントロール（RV902）でレベル調整される。コントラスト・コントロールでレベル調整された信号はビデオ増幅Q303，ビデオバッファーQ305を通り，ビデオ出力Q401よりD基板CND3⑤番端子を経てCRTのカソードに供給される。

3-2. 同期分離，水平偏向及び高圧回路

映像信号はコントラスト・コントロール（RV902）を通る映像信号以外に同期分離回路のQ501（コレクタ，ホロア回路）のベースに加えられる。Q501でビデオ信号の同期信号部分のみを取り出しIC501の①ピンに入り，②ピンがSYNC Sep Pulse outで，垂直偏向パルスをIC551①ピンへ，水平偏向パルスがビデオクランプ用としてQ306へ出力されます。③ピンにH.Outから比較パルスが加わり,SYNC Pulseと位相検波し，出力が④ピンとなる。R511（27kΩ）を介して⑨ピンの水平発振基準電圧をコントロールする事により水平同期をとっています。
⑧ピンが水平発振，鋸歯状波発生端子でC511（0.0022）により時定数が決まります。⑦ピンから約22Vp-pの水平ドライブパルスが出力されます。T801（H.D.T）でドライブしQ801がH.Out Trで，水平パルスは約100Vp-pとなります。Q802はH.CONVでT803（FBT）からHV，G_2 G_4 電源を得ています。T802は水平出力トランスで二次側パルスからヒーター電源，HV Reg基準電源をとっています。一次側D801がダンパーダイオードで④端子からDY偏向電流が流れます。HV電圧，約8.5kVをFBT内300MΩとR817（3.3MΩ）で分圧した電圧がコンパレーターIC801の②ピンに加わります。③ピンはD807で5.6Vの基準電圧となっていますので，⑥ピンはHVの変化に反転（HVが上ると⑥ピン出力は下がり，Q803をコントロールし，HVを下げる方向に働らき，HVを一定にしています。）した出力となります。Q803，Q804はFBTの電源のレギュレーター回路でFBTの電源を一定にし，高圧レギュレーターとしています。

3-3. 垂直発振，偏向回路

同期分離回路からの9.0Vp-pの負パルスは，IC551（AN5763）の①ピンへ入りONする。RV551で十分低い周波数にし，除々に大きくし60Hzにプルインするとき V同期信号をOFFし，自由発振周波数 f_{VL} を測定する。同様に高い周波数でのプルイン周波数 f_{VH} を測定すると
$f_{P(V)}=f_{VH}-f_{VL}$ となりこの時のRV551の値は90.8kΩとなる。
この状態の時に垂直発振状態が続き，更にIC551にて鋸歯状波が増幅され，⑧ピンで垂直出力となってV.DYへ供給される。

3-4. センターマーカー回路

V SYNCでIC301（モノステーブルマルチバイブレーター）をトリガーし（⑫ピン）この出力Q（⑩ピン）をIC303（12ステージリップルキャリーバイナリーカウンター）のCLEAR端子（⑪ピン）に入力し，H.SYNCをIC303のCLOCK端子（⑩ピン）に入力する。IC303のカウンター出力(③, ⑤, ⑥, ⑦, ⑨+②, ④, ⑬ピン)で横線を作り，(②, ④, ⑬ピン）出力でウインド波形を作る。さらにH.SYNCでIC302（⑤ピン）をトリガーしこの出力Q（⑦ピン）でさらに縦線用のモノマルチとウインド用モノマルチをトリガーする。

3-5. H.V REG回路

高圧出力8.5（kV）をR817とFBT（T803）内300MΩの抵抗で分割しオペアンプIC801の②ピンに加える。③ピンをツェナーダイオード（D807）で一定にする事により⑥ピンに高圧出力と反転の出力が得られる。この出力をQ804で増幅しQ803を制御する事によりFBTの電源電圧をコントロールしFBTの出力（HV）を一定にしている。

3-6. 9.5Vスイッチングレギュレーター

G基板G1①②端子からのDC入力10.5V～17VはQ601，Q602のエミッタに加えられる。L601を通った出力電圧の変化をIC601で読み取り，その変化に応じてIC601で42kHzオシレーターのパルス幅を変化させる。それをQ603で増幅しQ601，602をパルス幅に応じてオン・オフ（電圧が上がるとカットオフ期間が長くなり，下がると短くなる。）しG基板G2③⑤⑦端子に9.5V（RV601，9.5V ADJで電圧設定）の定電圧が得られる。

3-7. ランプ点灯回路

Q604はTALLY用LED D301，外部タリーランプPL901，Q605はBATTERY警告LED D302のスイッチング回路で外部からのコントロール信号でLEDおよびランプが点灯点滅する。

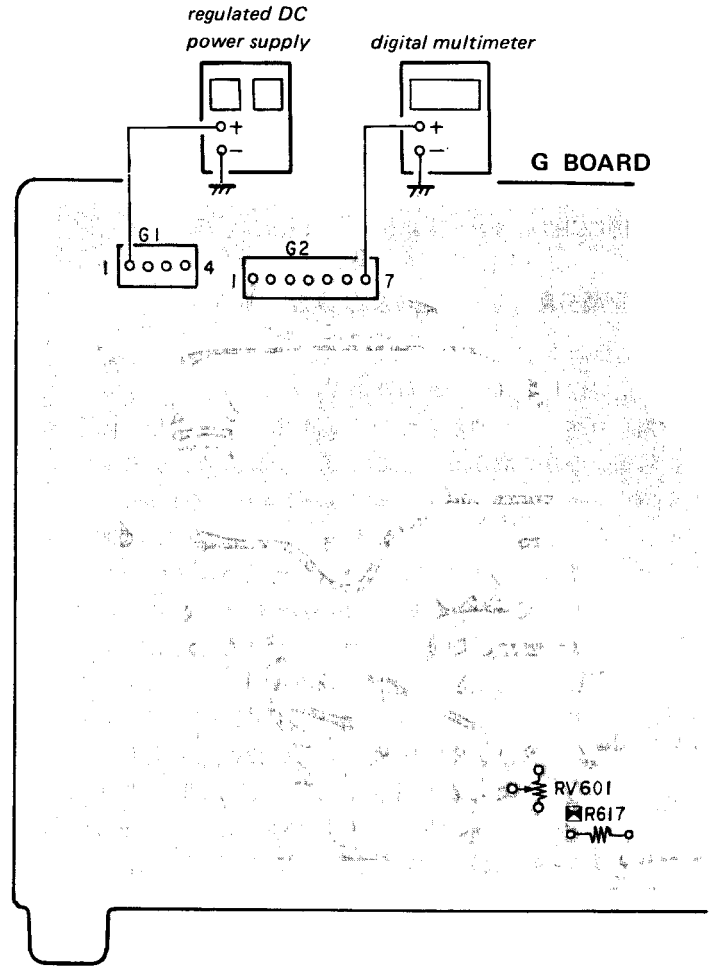
SECTION 4.
SAFETY RELATED ADJUSTMENTS

4-1. SAFETY RELATED ADJUSTMENTS

+B Voltage Check at MAX Value Adjustment of R617

When replacing the following components (◪ R617, R616, RV601, D601, D602, R602, IC601, Q601, Q602 and Q603), perform the adjustment as follows:

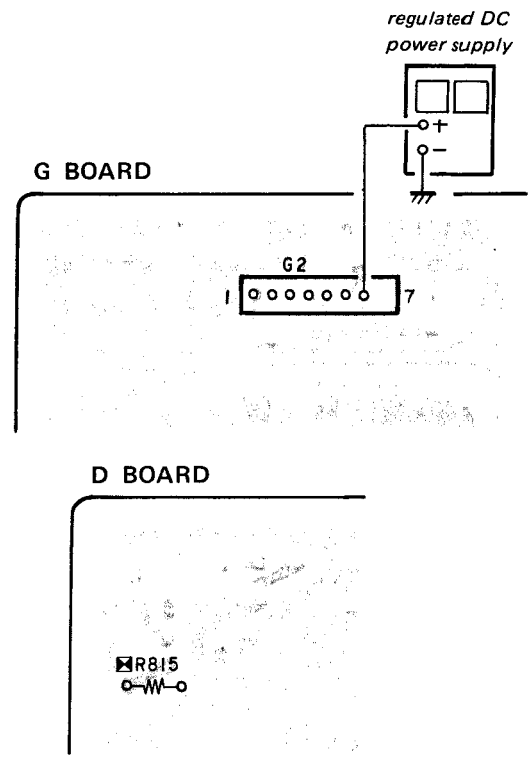
1) Supply 22V DC.
2) Supply the monoscope signal to VIDEO IN.
3) Set the BRT and CONT VRs at 50%.
4) Set RV601 at MAX.
5) Adjust the resistance value of R617 so that the voltage of the connector G-2 pin ⑦ on the G board is 10.0 ± 0.5V DC.



Adjustment of R815

When replacing the following components (◪ R815, D808, R813, Q805, Q806, R814, R811 and R812), perform the adjustment as follows:

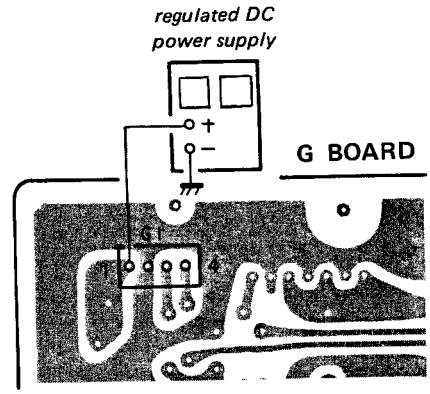
1) Supply the monoscope signal to VIDEO IN.
2) Set the BRT and CONT VRs at 50%.
3) Confirm that the HOLD DOWN circuit is activated when 11.5V ± 0.5V DC is applied to the connector G-2 pin ⑦ on the G board.
4) If Step 3) cannot be confirmed, adjust the resistance value of R815 and repeat the above Steps 1) through 3).



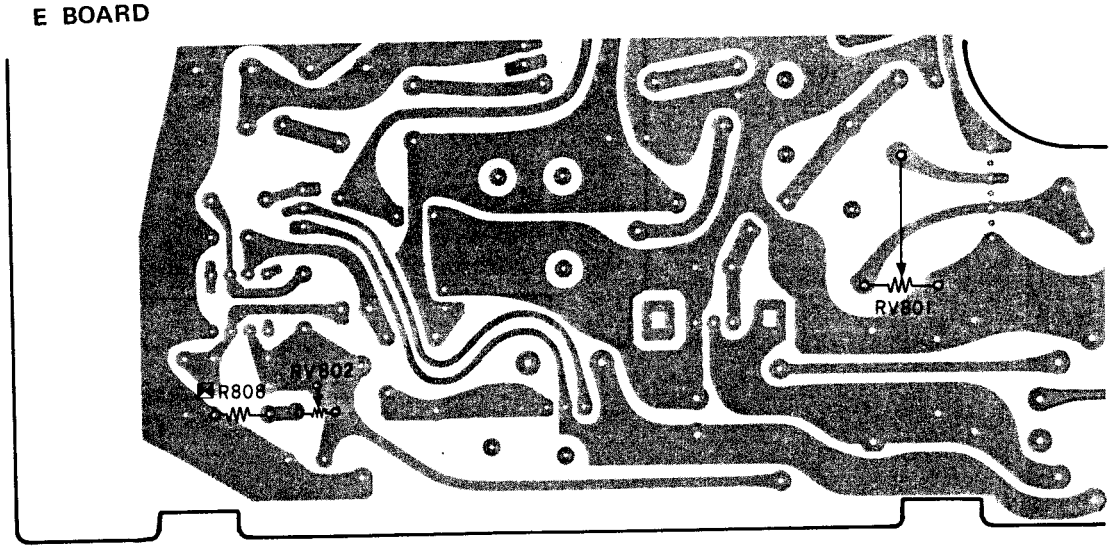
Adjustment of R808

When replacing the following components (R808, D807, R817, IC801, T803, Q803 and Q804), perform the adjustment as follows:

1) Supply the monoscope signal to VIDEO IN.
2) Set the BRT and CONT VRs at MIN.
3) Apply 17.0V DC between the connector G-1 pin ① and the GND.
4) Confirm that the high voltage is 9.35 kV DC ± 0.85 kV DC when RV802 is set at MAX.
5) If Step 4) cannot be confirmed, adjust the resistance value of R808 and repeat the above Steps 1) through 4).



E BOARD



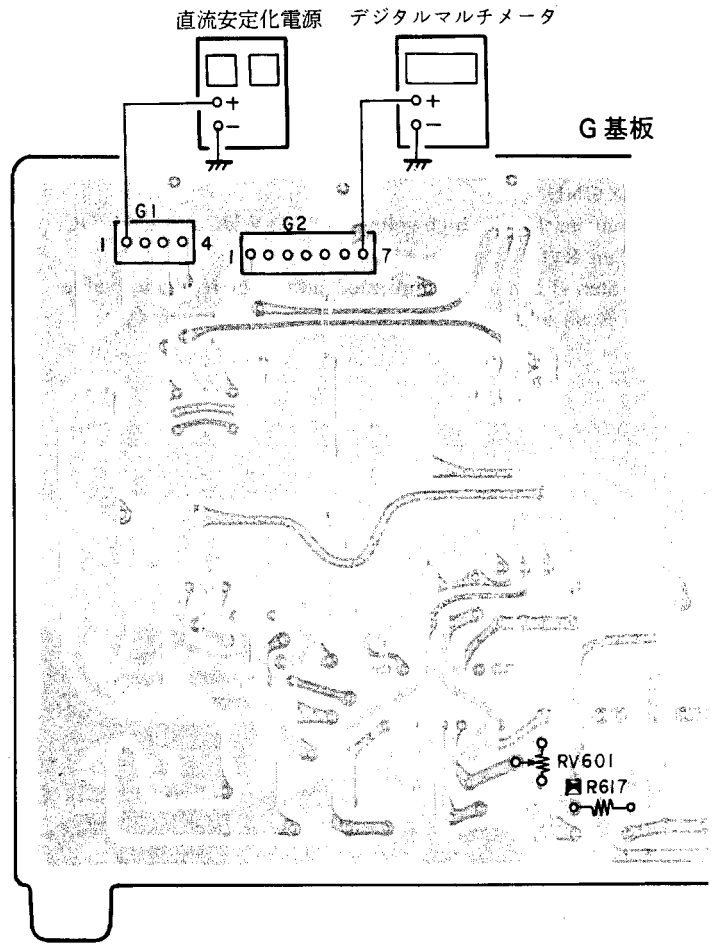
4. 安全関連調整

4-1. 当該安全調整

＋B MAX調整（R617の調整）

◪印の部品（R602, R616, R617, RV601, D601, D602, IC601, Q601, Q602, Q603）を交換したときは下記の調整を行って下さい。

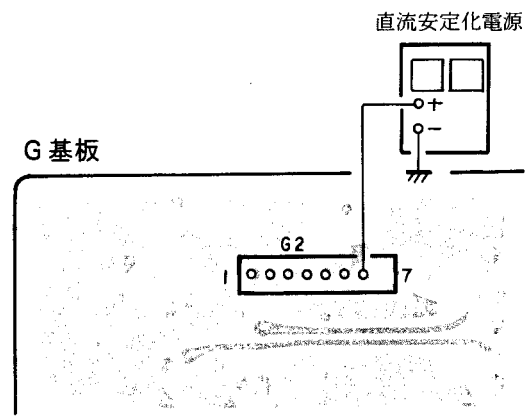
1）DC22Vを供給する。
（G基板G-1コネクタ，1ピンとアース間）
2）モノスコパターンを入力する。
3）BRT, CONTRを50％にセットする。
4）RV601を最大にする。
5）G基板G2コネクタ7ピンの電圧が10.0±0.5VDCになるようにR617の抵抗値を選択する。

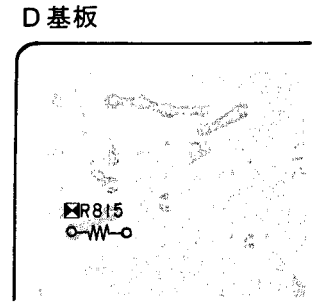


R815の調整

◪印の部品（R811, R812, R813, R814, R815, D808, Q805, Q806）を交換したときは下記の調整を行って下さい。

1）モノスコパターンを入力する。
2）BRT, CONTを50％にセットする。
3）G基板G2コネクタ7ピンに11.5±0.5VDCを加えた時ホールドダウン回路が動作する事を確認する。
4）3)が確認できない場合はR815の抵抗値を選択し上記のステップを繰り返す。

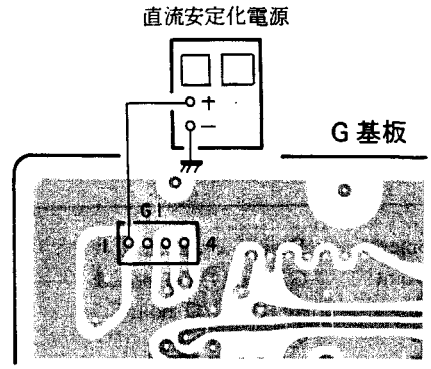




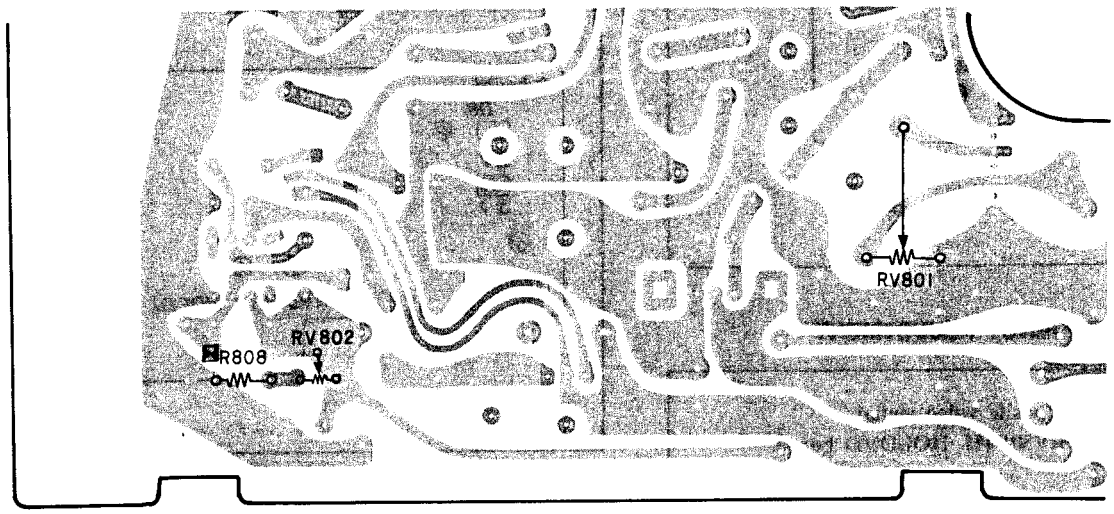
R808の調整

◪印の部品（R808，R817，D807，IC801，T803，Q803，Q804）を交換したときは下記の調整を行って下さい。

1）モノスコパターンを入力する。
2）BRT，CONTRは最小にセットする。
3）G基板G1コネクタ①ピンとアース間に17.0VDCを加える。
4）RV802を最大にする。この時高圧が9.35K±0.85KV DCであることを確認する。
5）4）が確認できない場合にはR808の抵抗値を選択し上記のステップを繰り返す。



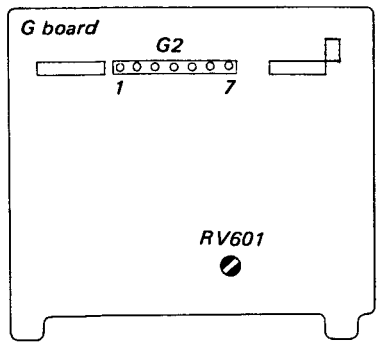
E基板



SECTION 5.
ADJUSTMENT

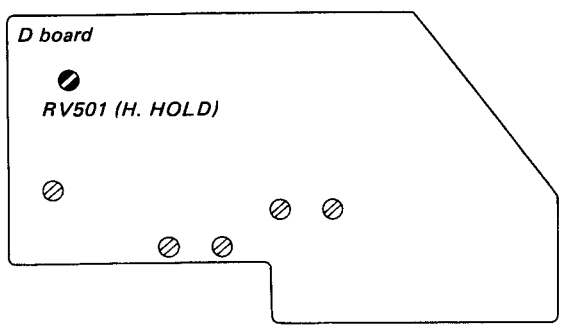
5-1. 9.5V REGULATOR ADJUSTMENT

Equipment : Digital Voltmeter
Test Point : G2 pin ⑦ /G board
Adjust : ◐ RV601/G board
Spec. : 9.50 ± 0.01 Vdc



5-2. H. OSC. FREQUENCY ADJUSTMENT

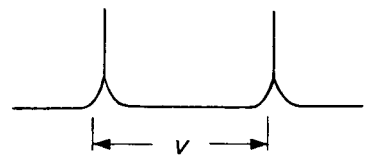
Input Signal : Composite video signal
Adjust : ◐ RV501 (H. HOLD)/D board



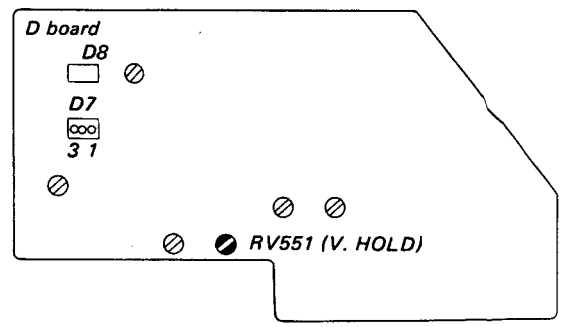
1. Keep free run between base of Q501 and GND by using an electrolytic capacitor of 100 μ/16V.
2. Adjust RV501 so that horizontal synchronization is established on the viewfinder screen.
3. Remove the electrolytic capacitor.

5-3. V. OSC. FREQUENCY ADJUSTMENT

Input Signal : No signal
Test Point : D7 pin ③ /D board

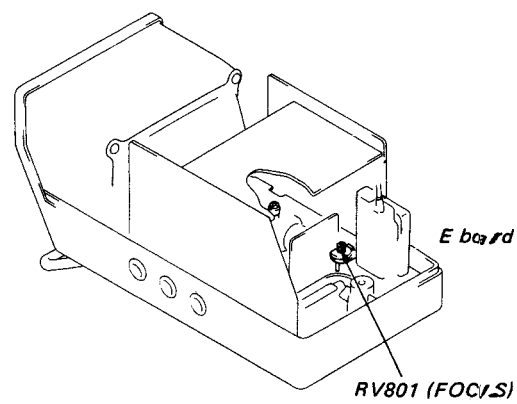


Adjust : ◐ RV551 (V. HOLD)/D board
Spec. : V = 18 ± 0.2 ms



5-4. FOCUS ADJUSTMENT

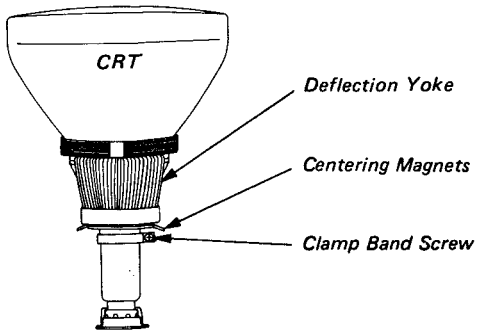
Input Signal : Composite video signal
Adjust : ◐ RV801 (FOCUS)/E board
Adjust RV801 so that the focus is optimized on the viewfinder screen.



5-5. DEFLECTION YOKE TILT ADJUSTMENT

Input Signal ; Composite video signal

1. Loosen the clamp band screw holding the deflection yoke. Rotate the deflection yoke clockwise or counter-clockwise until the picture becomes straight. (Don't tighten the screw so strongly.)



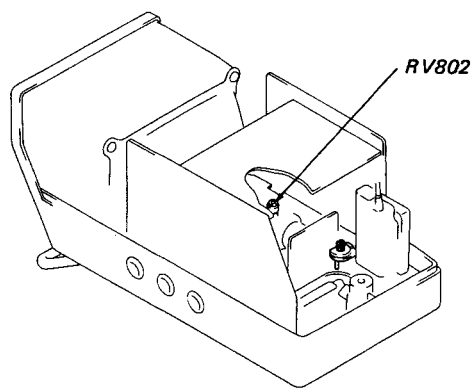
5-6. CENTERING ADJUSTMENT

Input Signal ; Composite video signal

1. Rotate the two centering magnets shown in the figure in Step 4-5 to center the picture both vertically and horizontally on the screen.
2. Lock the centering magnets with point.

5-7. H. V. REGULATOR ADJUSTMENT

Input Signal ; Composite video signal
Adjust ; ◐ RV802
Spec. ; 8.5 kV ± 0.05 kV between CRT anode and GND

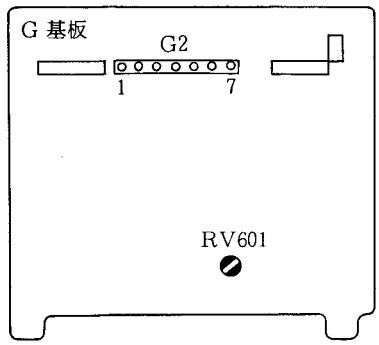


The adjustment procedure is the same as that for when a high voltage meter is used. Convert the high voltage value to Q803 collector voltage is 10.2V or less.

5. 調整

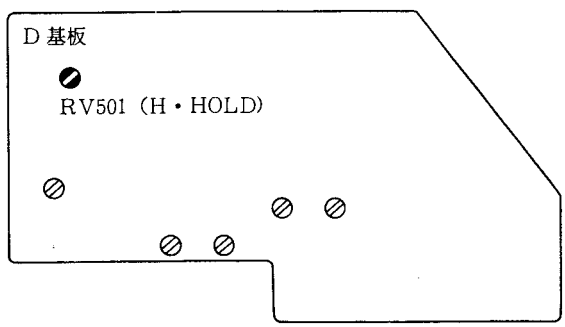
5-1. 9.5V電源電圧調整

測定器　：デジタル・ボルトメータ
測定箇所：G2ピン⑦／G基板
調整箇所：◐RV601／G基板
規格　　：9.50± 0.01Vdc



5-2. 水平発振周波数調整

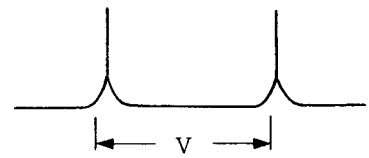
入力信号：COMPOSITE VIDEO SIGNAL
調整箇所：◐RV501（H.HOLD）／D基板



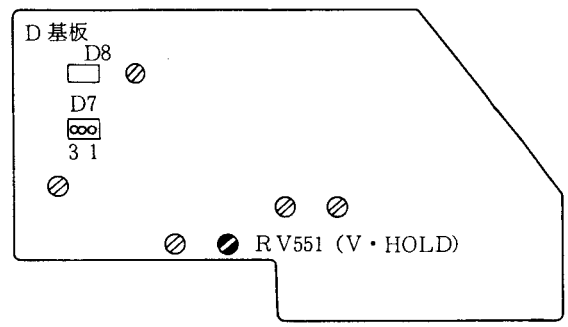
1. Q501ベースとアース間に100μ／16Vのケミコンでfree run状態とする。
2. VF画面下で，ほぼ水平周期のとれた状態にRV501を調整する。
3. ケミコンを外す。

5-3. 垂直発振周波数

入力信号：無信号
調整箇所：D7ピン③／D基板

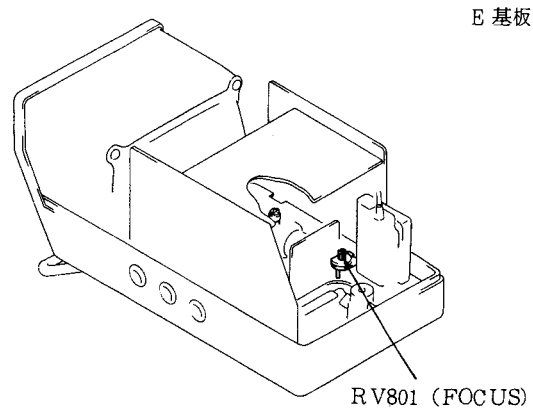


調整箇所：◐RV551（V.HOLD）／D基板
規格　　：V＝18± 0.2mS



5-4. フォーカス調整

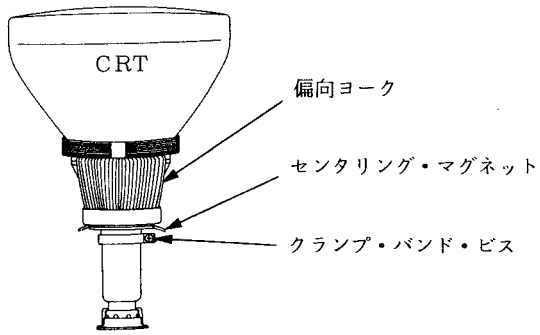
入力信号：COMPOSITE VIDEO SIGNAL
調整箇所：◐RV801（FOCUS）／E基板
VF画面上でFOCUSが最良になるようにRV801を調整する。



5-5. 偏向ヨーク傾き調整

入力信号：COMPOSITE VIDEO SIGNAL

1. 偏向ヨークを止めているクランプ・バンド・ビスをゆるめ，画像が正立するように偏向ヨークを回転させる。（強く締め付けすぎないこと。）



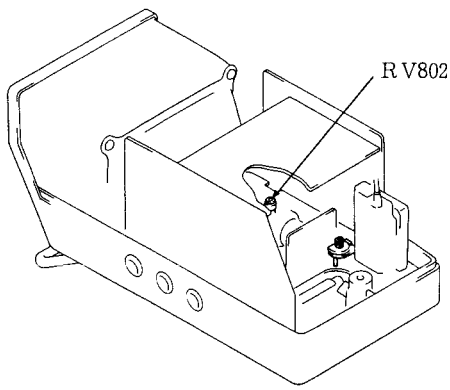
5-6. センタリング調整

入力信号：COMPOSITE VIDEO SIGNAL

1. 調整項目4-5.に示す2枚のセンタリング・マグネットを回転してH，Vのセンタリングがとれる点にセットする。
2. センタリング・マグネットにペイントロックをする。

5-7. HV REG調整

入力信号：COMPOSITE VIDEO SIGNAL
調整箇所：◐RV802
規格　　：CRT，アノード—アース間
8.5KV± 0.05KV

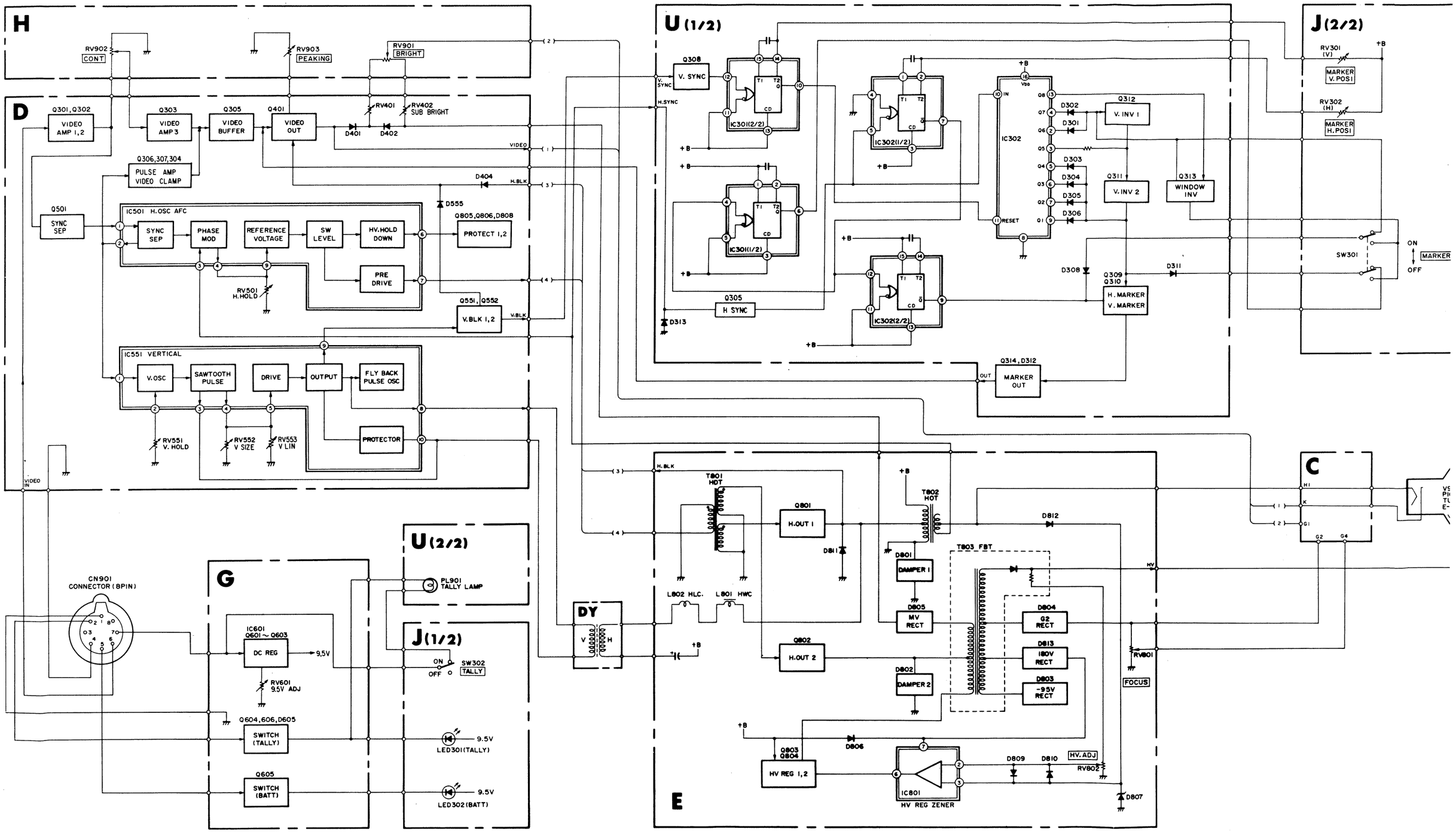


デジタルマルチメーター使用の場合にはQ803コレクタ電圧が10.2V以下の事を確認する。

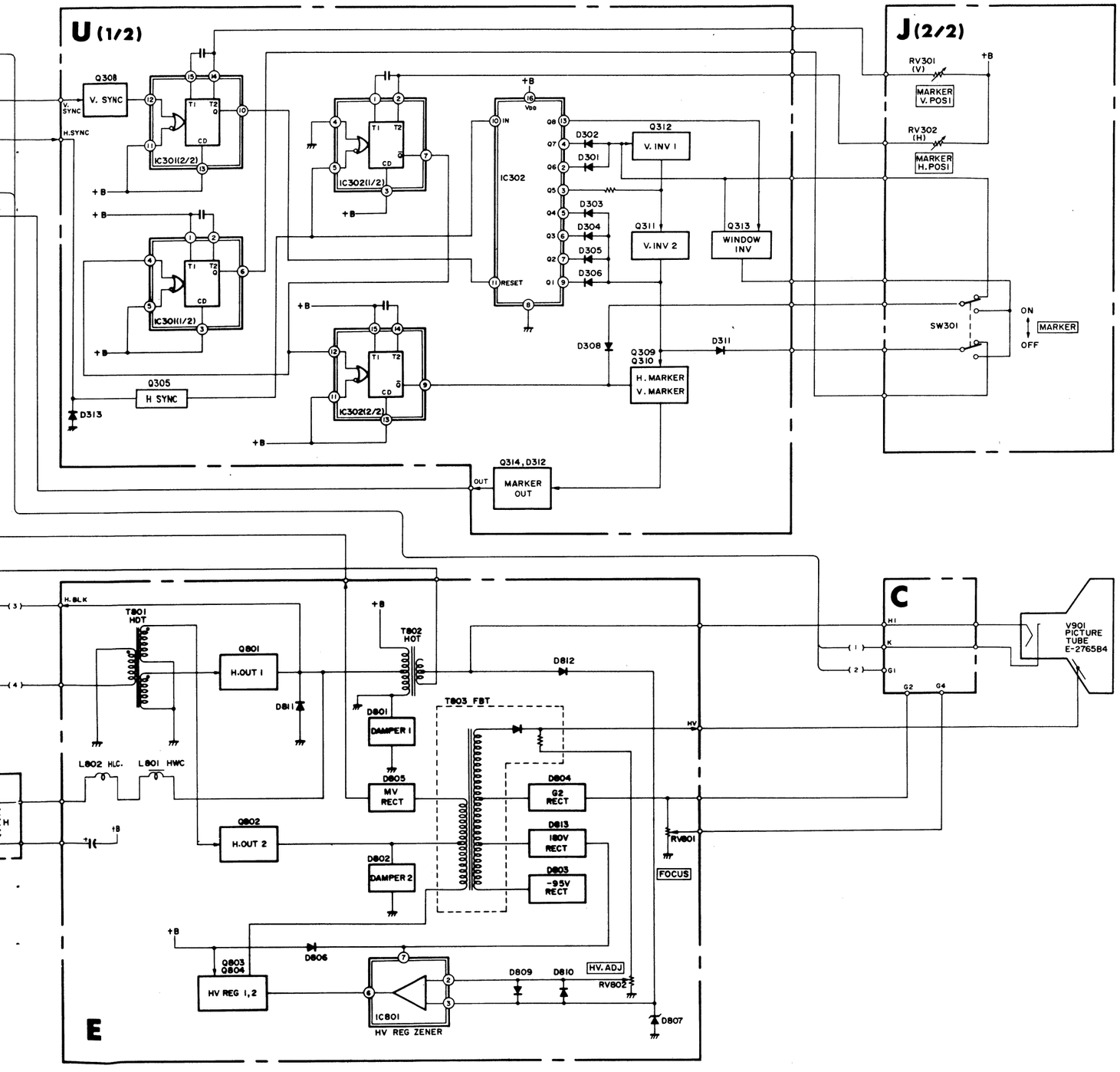
MEMO

SECTION 6.
DIAGRAMS
6. ダイヤグラム

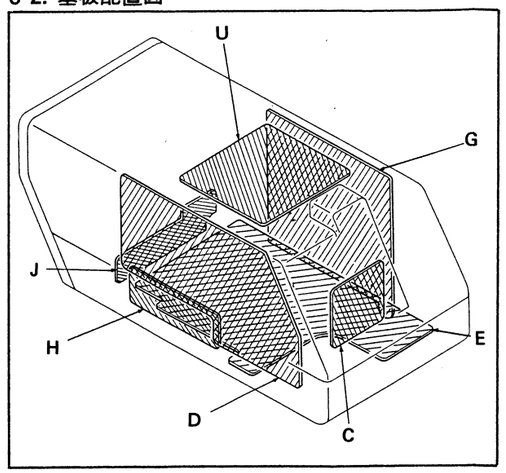
6-1. OVERALL BLOCK DIAGRAM
6-1. 総合ブロックダイヤグラム



DXF-50B/50BJ/50BCE



6-2. CIRCUIT BOARDS LOCATION
6-2. 基板配置図



6-3. SCHEMATIC DIAGRAM AND PRINTED WIRING BOARDS
6-3. 回路図，プリント図

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, 1/6W unless otherwise noted. kΩ = 1000Ω, MΩ = 1000kΩ
- ▭: nonflamable resistor.
- △ : internal component.
- ▭: panel designation.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by ⊠ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪ mark the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ⊠ and repeat the adjustment until the specified value is achieved.
  When replacing the part in below table, be sure to perform the related adjustment.

	Part replaced (◪)	Adjustment (⊠)
G	IC601, Q601 ~ 603 D601, 602, R602, 616, RV601.	R617 (+B MAX)
D	Q805, 806, D808 R811 ~ 815.	R815 (HOLD DOWN)
E	IC801, Q803, 804 D807, R817, T803, R808.	R808 (HV REG)

- Conditions for measuring the voltage value and waveform
  (1) A color bar pattern is used to measure the input signal.
  (2) The voltage value is measured against the GND.
  (3) The switch is set according to the following panel display.
  Center marker, Tally } . . . . . OFF
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10MΩ digital multimeter.
- ▭: adjustment for repair.
- Voltage variations may be noted due to normal production tolerances.
- ——— : B + bus.

⚠ および ▨ 印の部品は，安全性を維持するために，重要な部品です。従って交換時は，必ず指定の部品を使用して下さい。

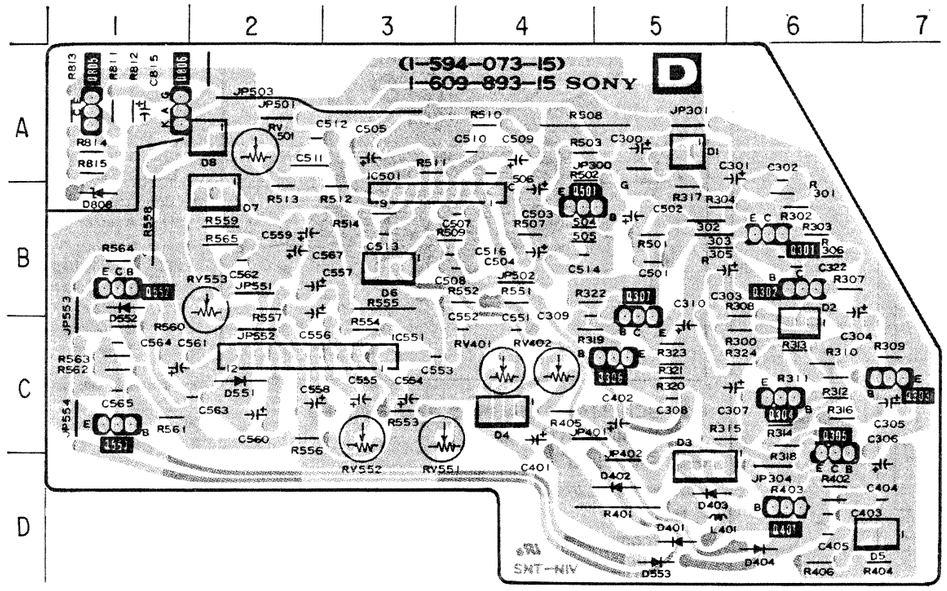
- 指示のない抵抗の容量は 1／6 W
- 抵抗の基本単位 Ω は省略
- ケミコンを除くコンデンサーで耐圧 50 V 以下のものは，その耐圧を省略。単位はすべて μF（p は pF）
- △ 印は内蔵部品
- 半固定抵抗及び可変抵抗器の特性カーブ（B）は省略
- ▭ 印は不燃性抵抗
- ▭ は，パネル表示名称。
- ⊠ 印の部品の定数は，X 線量規制の規格を満足させるため，製造時セット毎に確認したものです。万一この部品を交換する場合は，セットに付いている部品と同一のものをご使用下さい。
  また回路図上の ◪ 印の部品を交換した場合は，指定された調整，確認が必要です。確認の結果が指示した値と合致しない場合は，⊠ 印の部品を交換し必ず指示した値と合致するように調整して下さい。
  (20, 21 ページの ⊠ R617，R815，R808 の確認方法を参照)
- 電圧値および波形の測定条件
  (1) 電圧値はカラーバーゼネレーターより信号を受信したときの対アース間の参考値。
  (2) スイッチおよびつまみは次のパネル表示に合わせる。
  センターマーカ, タリー } 切
- デジタルマルチメーター DC 10 M Ω/V を使用。
- ▭ は調整名称。
- 実測値は異なる場合があります。
- ーは主要電圧ラインを示す。

D [VIDEO AMP, SYNC SEP] J [USER CONTROL]

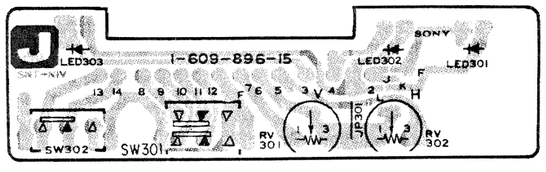
— D Board —

IC	
IC501	B-3
IC551	C-2
TRANSISTOR	
Q301	B-6
Q302	B-6
Q303	C-7
Q304	C-6
Q305	C-6
Q306	C-6
Q307	B-5
Q401	D-6
Q501	B-4
Q551	C-1
Q552	B-1
Q805	A-1
Q806	A-1
DIODE	
D401	D-5
D402	D-5
D403	D-5
D404	D-6
D551	C-2
D552	B-2
D553	D-5
D808	B-1
VARIABLE RESISTOR	
RV401	C-4
RV402	C-4
RV501	A-2
RV551	C-3
RV552	C-3
RV553	B-2

— D Board —



— J Board —

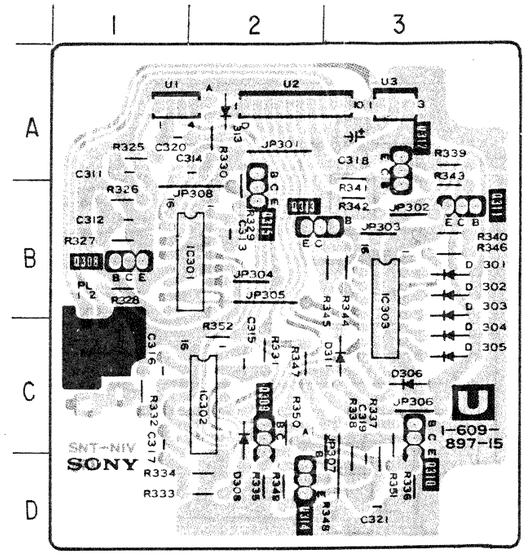


U [H.V MARKER] G [REG] E [H OUT] H [US

— U Board —

IC	
IC301	B-2
IC302	C-2
IC303	B-3
TRANSISTOR	
Q308	B-1
Q309	C-2
Q310	C-3
Q311	B-3
Q312	A-3
Q313	B-2
Q314	D-2
Q315	B-2
DIODE	
D301	B-3
D302	B-3
D303	B-3
D304	C-3
D305	C-3
D306	C-2
D308	C-2
D311	C-3
D313	B-2

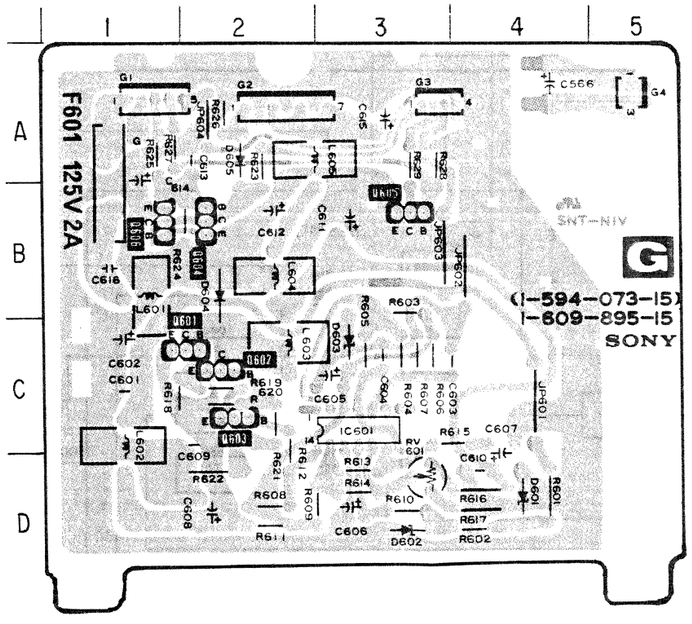
— U Board —



— G Board —

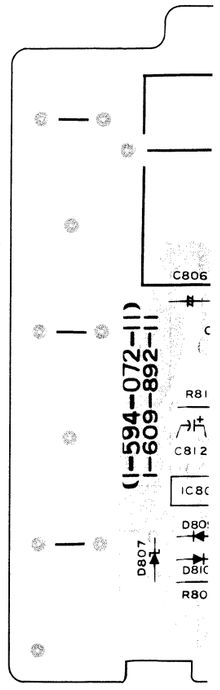
IC	
IC601	C-3
TRANSISTOR	
Q601	C-2
Q602	C-2
Q603	C-2
Q604	B-2
Q605	B-3
Q606	B-1
DIODE	
D601	D-4
D602	D-3
D603	C-3
D604	B-2
D605	A-2
VARIABLE RESISTOR	
RV601	D-3

— G Board —

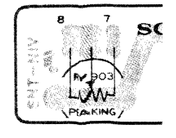


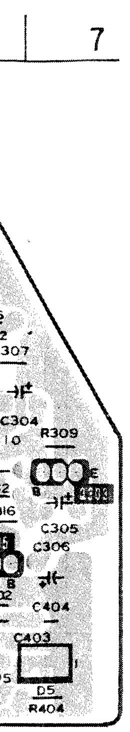
— E Board —

IC,Q	IC80
D	809 807 810
ADJ	



— H Board —



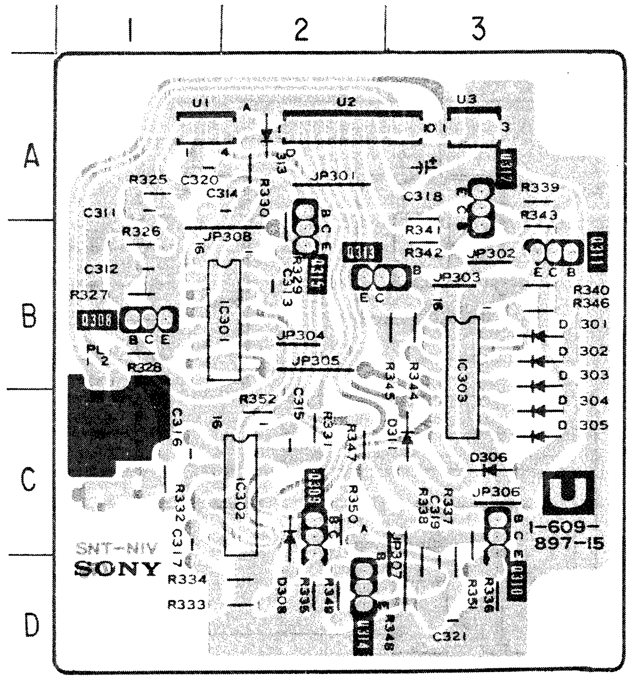


U [H.V MARKER] **G** [REG] **E** [H OUT] **H** [USER CONTROL] **C** [CRT SOCKET]

— U Board —

IC	
IC301	B-2
IC302	C-2
IC303	B-3
TRANSISTOR	
Q308	B-1
Q309	C-2
Q310	C-3
Q311	B-3
Q312	A-3
Q313	B-2
Q314	D-2
Q315	B-2
DIODE	
D301	B-3
D302	B-3
D303	B-3
D304	C-3
D305	C-3
D306	C-2
D308	C-2
D311	C-3
D313	B-2

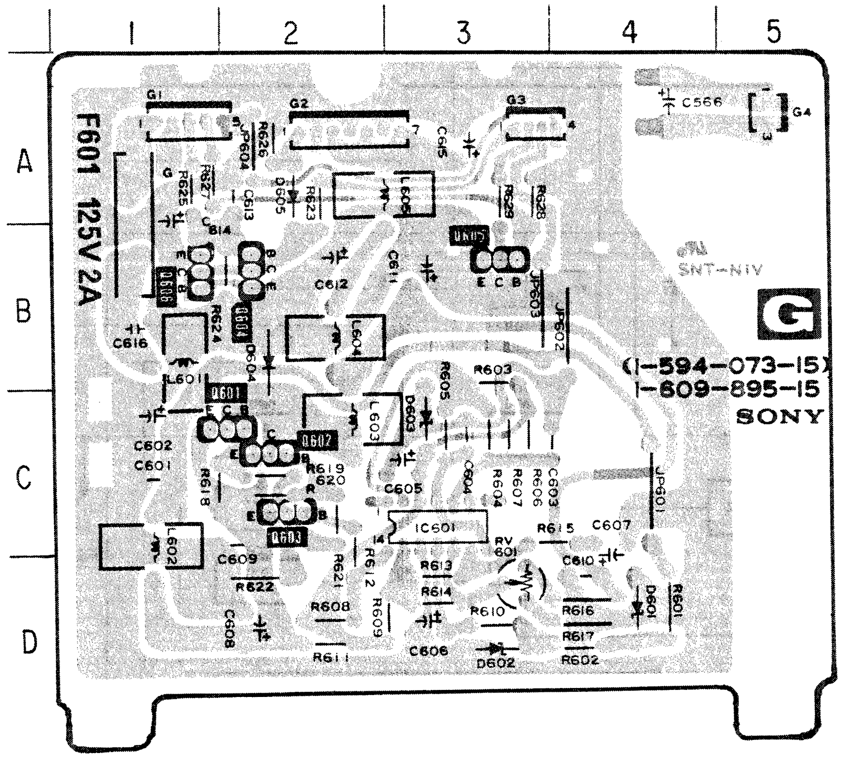
— U Board —



— G Board —

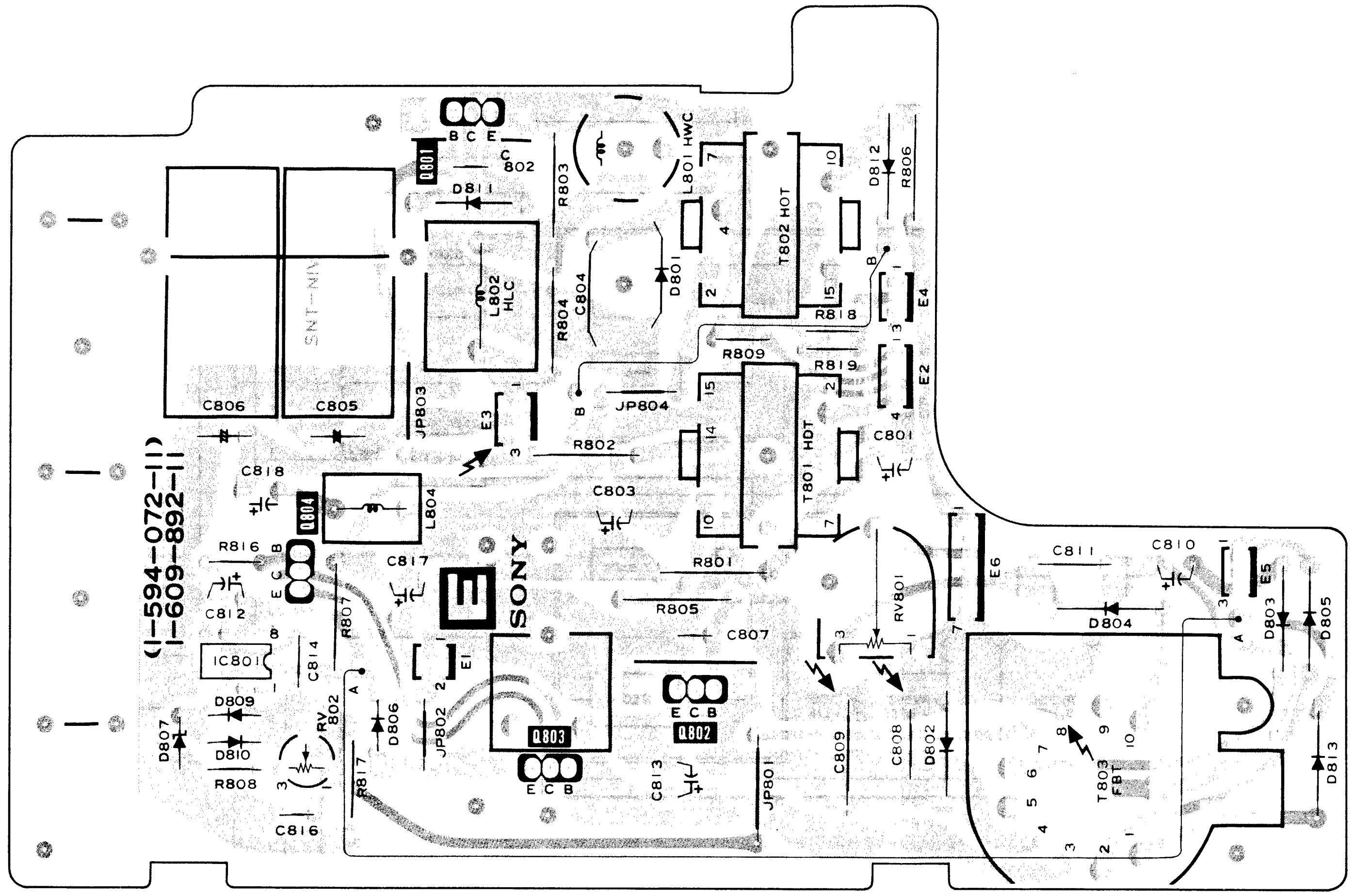
IC	
IC601	C-3
TRANSISTOR	
Q601	C-2
Q602	C-2
Q603	C-2
Q604	B-2
Q605	B-3
Q606	B-1
DIODE	
D601	D-4
D602	D-3
D603	C-3
D604	B-2
D605	A-2
VARIABLE RESISTOR	
RV601	D-3

— G Board —

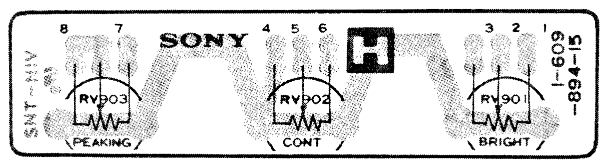


— E Board —

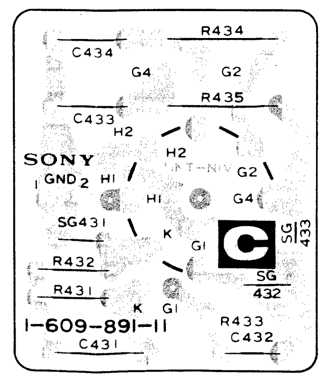
IC,Q	IC801 804 801 803 802	IC,Q
D	807 809 810 806 811 801 812 802 804 803,805 813	D
ADJ	RV802 RV801	ADJ

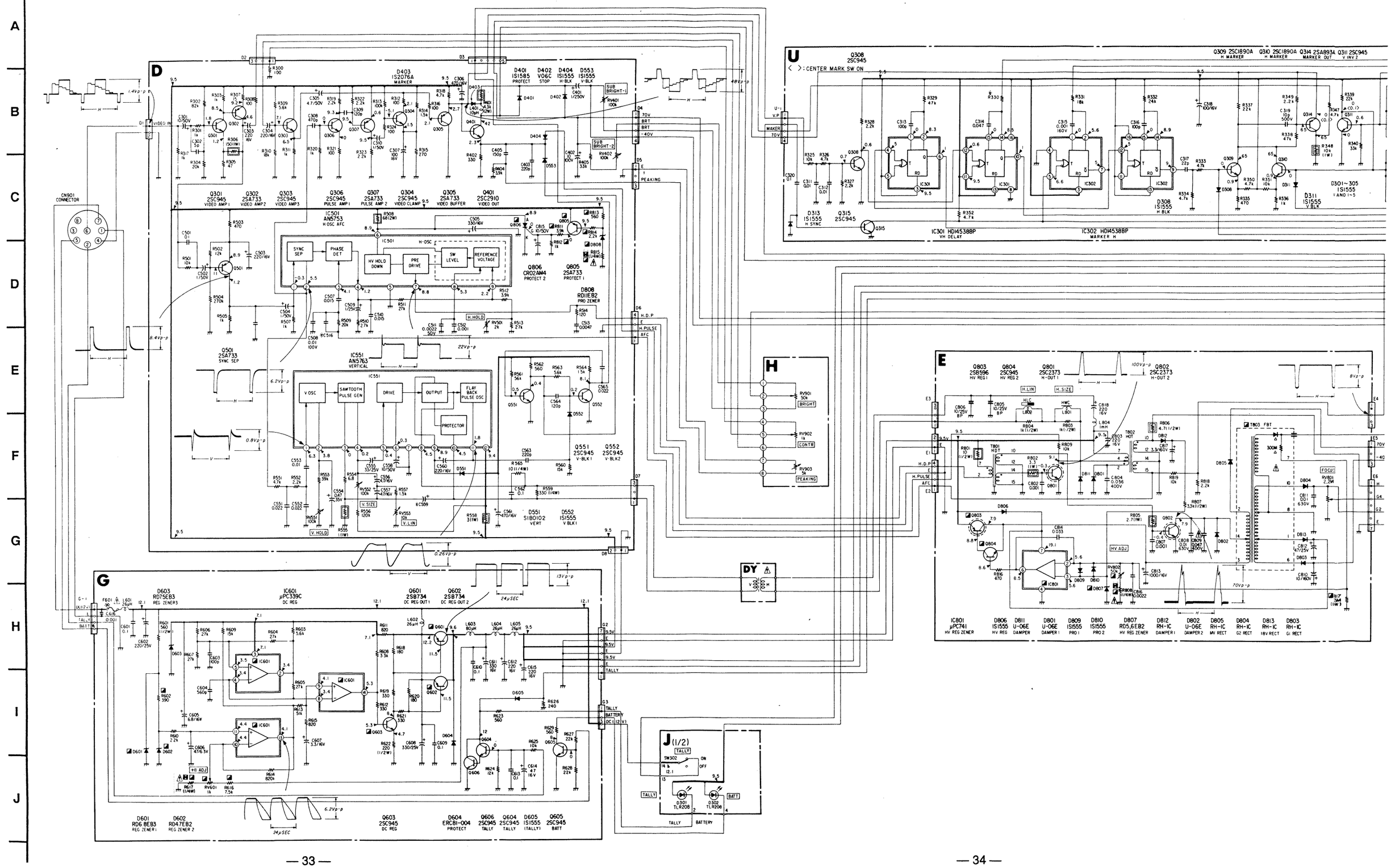


— H Board —

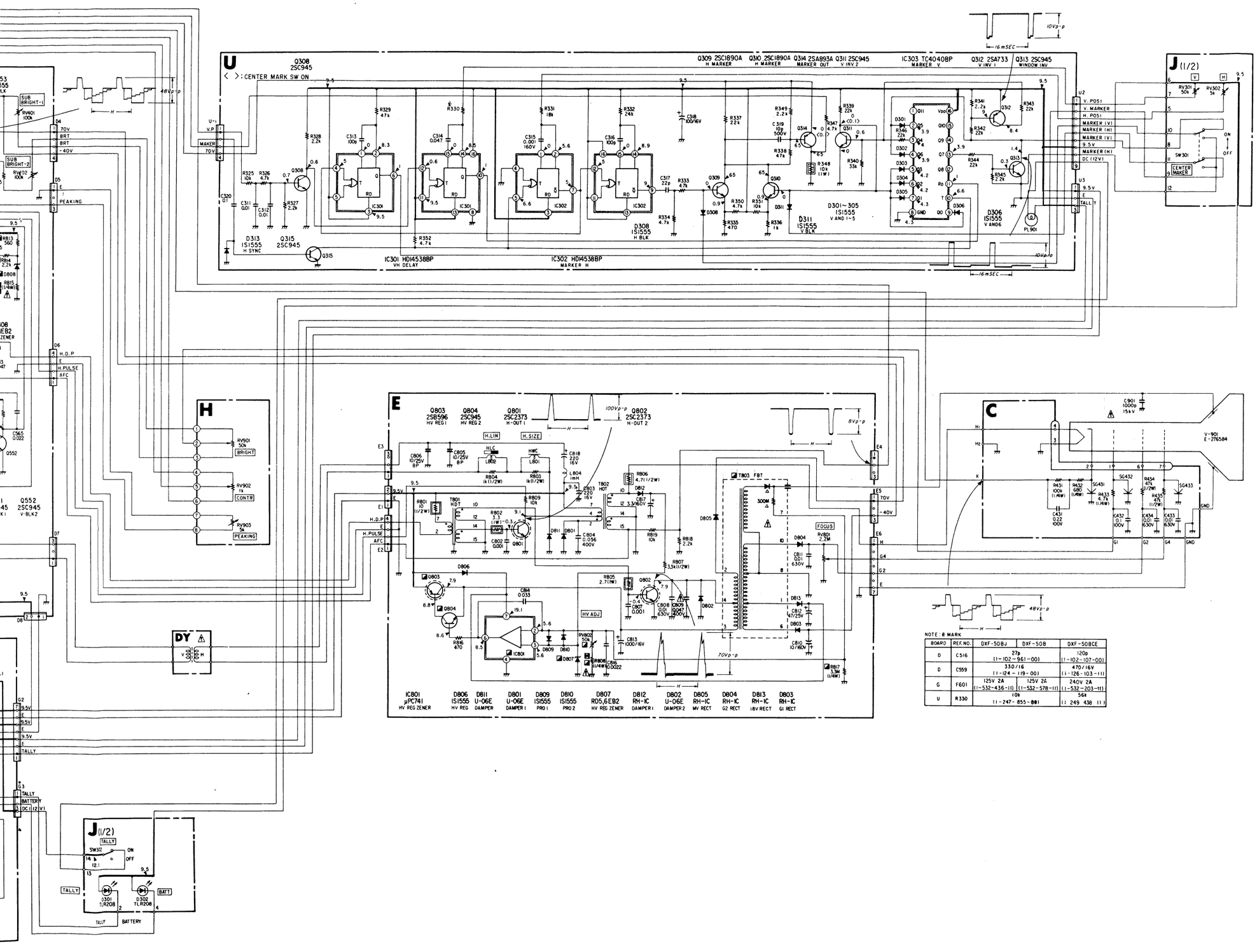


— C Board —




D
U
E
H
G
J (1/2)
DY
CN901 CONNECTOR
IC501 AN5753 H OSC AFC
IC551 AN5763 VERTICAL
IC601 µPC339C DC REG
IC801 µPC741 HV REG ZENER
IC301 HD14538BP VH DELAY
IC302 HD14538BP MARKER H
Q301 2SC945 VIDEO AMP1
Q302 2SA733 VIDEO AMP2
Q303 2SC945 VIDEO AMP3
Q306 2SC945 PULSE AMP1
Q307 2SA733 PULSE AMP2
Q304 2SC945 VIDEO CLAMP
Q305 2SA733 VIDEO BUFFER
Q401 2SC2910 VIDEO OUT
Q403 IS2076A MARKER
Q501 2SA733 SYNC SEP
Q551 2SC945 V-BLK1
Q552 2SC945 V-BLK2
Q601 2SB734 DC REG OUT1
Q602 2SB734 DC REG OUT2
Q603 2SC945 DC REG
Q604 ERCBI-004 PROTECT
Q606 2SC945 TALLY
Q604 2SC945 TALLY
Q605 2SC945 BATT
Q308 2SC945
Q309 2SC1890A H MARKER
Q310 2SC1890A H MARKER
Q314 2SA893A MARKER OUT
Q311 2SC945 V INV 2
Q315 2SC945
Q803 2SB596 HV REG1
Q804 2SC945 HV REG 2
Q801 2SC2373 H-OUT1
Q802 2SC2373 H-OUT2
D401 IS1585 PROTECT
D402 V06C STOP
D404 IS1555 H-BLK
D553 IS1555 V-BLK
D308 IS1555 H BLK
D311 IS1555 V BLK
D313 IS1555 H SYNC
D301~305 IS1555 V AND I~5
D551 S1B0102 VERT
D552 IS1555 V BLK1
D601 RD6.8EB3 REG ZENER1
D602 RD47EB2 REG ZENER2
D603 RD75EB3 REG ZENER3
D808 RD11EB2 PRO ZENER
D806 IS1555 HV REG
D811 U-06E DAMPER
D801 U-06E DAMPER1
D809 IS1555 PRO1
D810 IS1555 PRO2
D807 RD5.6EB2 HV REG ZENER
D812 RH-IC DAMPER1
D802 U-06E DAMPER2
D805 RH-IC MV RECT
D804 RH-IC G2 RECT
D813 RH-IC 18V RECT
D803 RH-IC G1 RECT
SYNC SEP
PHASE DET
HV HOLD DOWN
PRE DRIVE
SW LEVEL
REFERENCE VOLTAGE
H-OSC
V OSC
SAWTOOTH PULSE GEN
DRIVE
OUTPUT
FLAY BACK PULSE OSC
PROTECTOR
SUB BRIGHT-1
SUB BRIGHT-2
RV401 100k
RV901 50k BRIGHT
RV902 1k CONTR
RV903 1k PEAKING
RV501 100k V.HOLD
RV552 100k V.SIZE
RV553 10k V.LIN
RV601 1k
RV801 2.2M FOCUS
RV802 50k HV ADJ
SW302 TALLY
D301 TLR208
D302 TLR208
TALLY
BATTERY
BATT
H.LIN
H.SIZE
HV ADJ
FBT
300M
VIDEO IN
PEAKING
H.D.P
H.PULSE
AFC
H.HOLD
V.HOLD
V.SIZE
V.LIN
+B ADJ
70V
-40V
9.5V
12V
TALLY
BATTERY
1.4Vp-p
8.4Vp-p
6.2Vp-p
0.8Vp-p
0.26Vp-p
22Vp-p
48Vp-p
100Vp-p
8Vp-p
70Vp-p
13Vp-p
6.2Vp-p
24µSEC

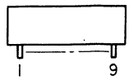
8 9 10 11 12 13 14 15 16 17 18 19 20



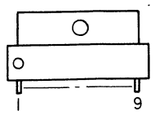
BOARD	REF.NO.	DXF-50BJ	DXF-50B	DXF-50BCE
D	C516	27p (1-102-961-00)		120p (1-102-107-00)
D	C559	330/16 (1-124-119-00)		470/16V (1-126-103-11)
G	F601	125V 2A (1-532-436-11)	125V 2A (1-532-578-11)	240V 2A (1-532-203-11)
U	R330	10k (1-247-855-00)		56k (1 249 438 11)

6-4. SEMICONDUCTORS
6-4. 半導体外形図

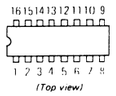
AN5753



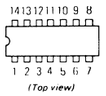
AN5763



HD14040BP
HD14583BP
TC4040BP



UPC339C



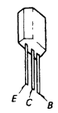
UPC741C

2SA733
2SA1015
2SC945
2SC1815
2SC1890

2SA893
2SB740
2SC1811

2SB734

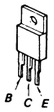
2SA1026



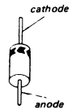
2SA1048
2SA1115
2SC2458
2SC2603

2SA1175
2SC2785

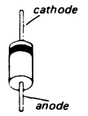
2SC2373



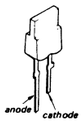
CRO2AM-4



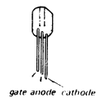
ERC81-004
RD4.7EB2
RD5.6EB2
RD6.8EB3
RD7.5EB3
RD11EB2
1S1555
1S1585
1S2076
1S2473
1SS133



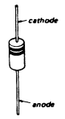
ERD29-08J



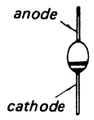
RH-1C
S1B01-02



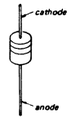
TLR208



V06C



1SS119
1SS148



SECTION 7
EXPLODET VIEWS
7. 分解図

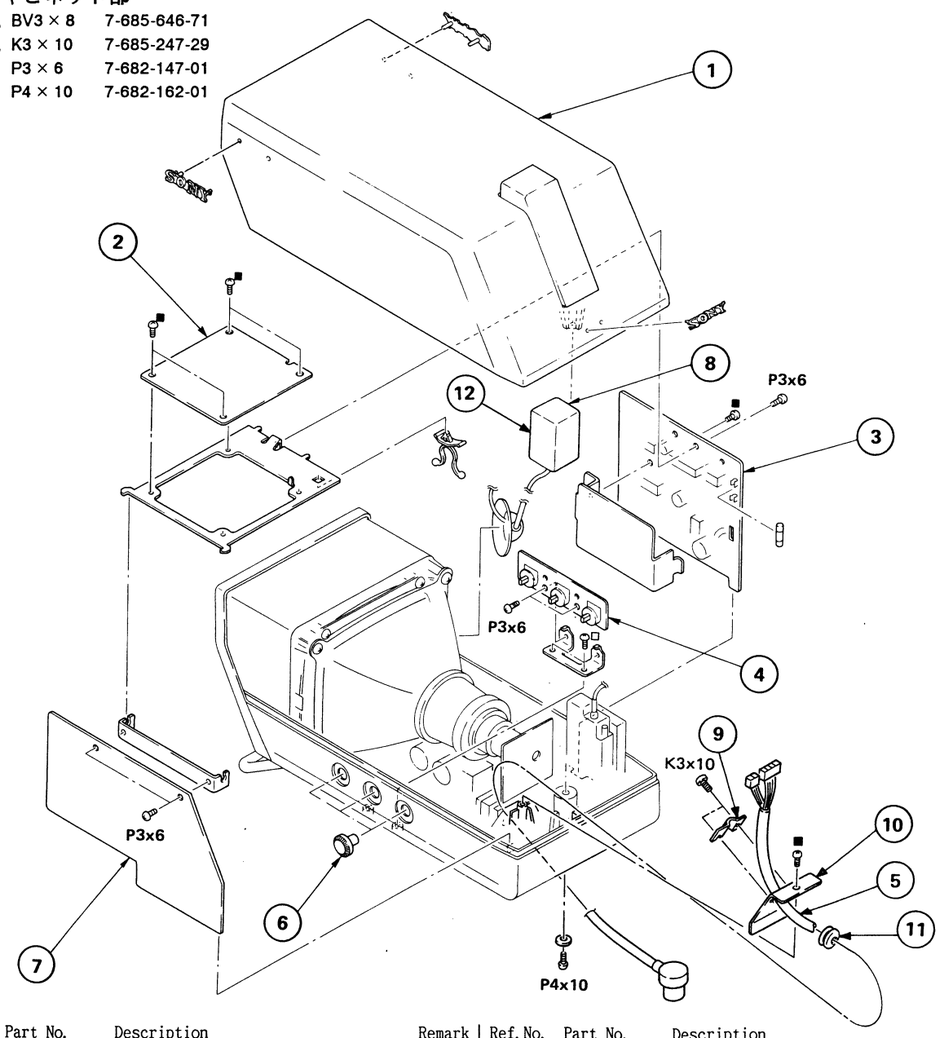
NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

(1) CABINET BOARD ASSEMBLY
(1) キャビネット部

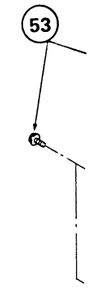
■: TA, BV3 × 8 7-685-646-71
TA, K3 × 10 7-685-247-29
P3 × 6 7-682-147-01
P4 × 10 7-682-162-01



Ref.No.	Part No.	Description	Remark
1	X-4031-716-1	CABINET (UPPER) ASSY	
2	* A-1373-012-A	MOUNTED PCB, U	
3	* A-1316-029-A	G BOARD, COMPLETE	
4	* 1-609-894-00	H BOARD	
5	1-556-924-21	CORD (WITH DIN PLUG)	
6	4-344-209-00	KNOB (A), CONTROL	
7	* A-1345-418-A	D BOARD, COMPLETE (FOR 50BJ)	
7	* A-1345-420-A	D BOARD, COMPLETE (FOR 50B)	
7	* A-1345-422-A	D BOARD, COMPLETE (FOR 50BCE)	
8	⚠1-162-171-11	HV, CAPACITOR 1000P	
9	4-026-213-00	CLAMP, CORD (UPPER)	
10	* 4-027-605-00	CLAMP, CORD (LOWER)	
11	3-630-837-00	BUSH, STAND-BY LAMP	
12	* 4-027-670-02	HOOK	

(2) CABII
(2) ブラウ

■: TA, BV3
●: TA, BV4
▲: TA, BV3
K3
K4
W4



Ref. No.	Part
51	4-027
52	4-027
53	3-303
54	* 1-609
55	⚠1-546
56	⚠1-457

SECTION 7
EXPLODET VIEWS
7. 分解図

NOTE:
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- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

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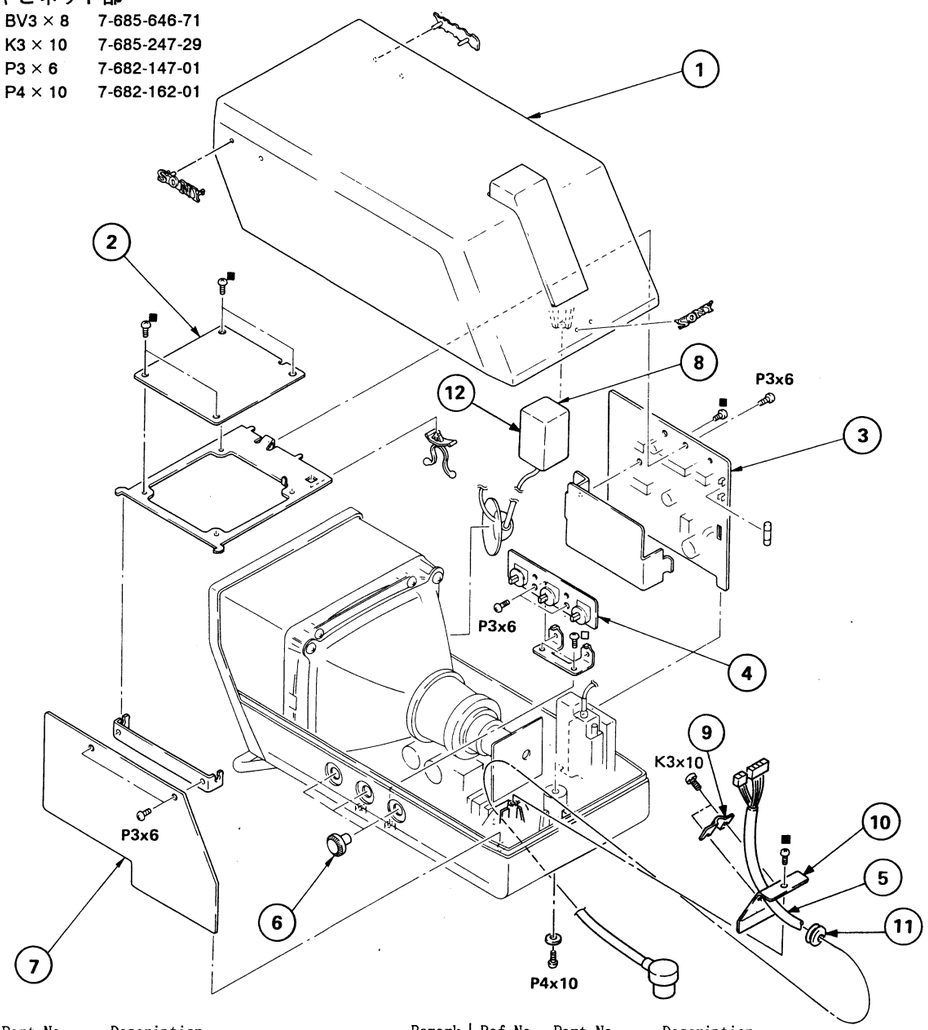
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

(1) CABINET BOARD ASSEMBLY
(1) キャビネット部

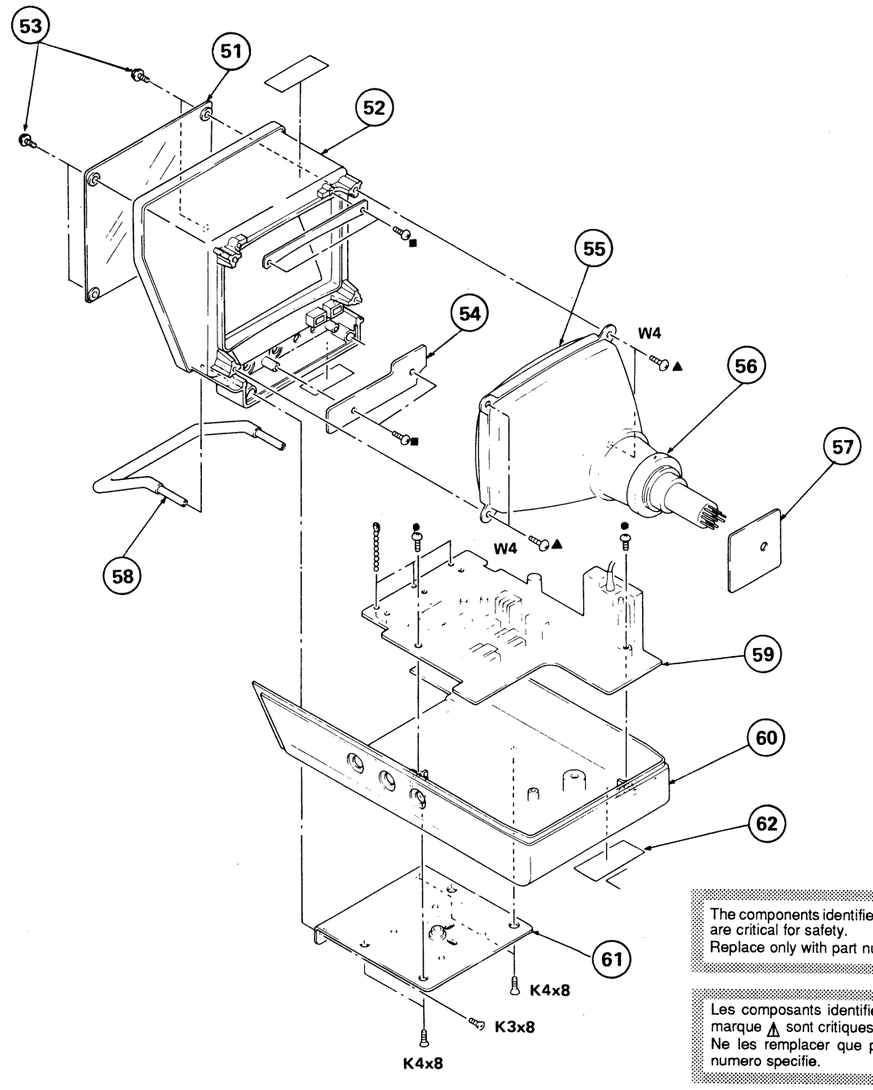
■: TA, BV3 × 8 7-685-646-71
TA, K3 × 10 7-685-247-29
P3 × 6 7-682-147-01
P4 × 10 7-682-162-01



Ref.No.	Part No.	Description	Remark
1	X-4031-716-1	CABINET (UPPER) ASSY	
2	* A-1373-012-A	MOUNTED PCB, U	
3	* A-1316-029-A	G BOARD, COMPLETE	
4	* 1-609-894-00	H BOARD	
5	1-556-924-21	CORD (WITH DIN PLUG)	
6	4-344-209-00	KNOB (A), CONTROL	
7	* A-1345-418-A	D BOARD, COMPLETE (FOR 50BJ)	
7	* A-1345-420-A	D BOARD, COMPLETE (FOR 50B)	
7	* A-1345-422-A	D BOARD, COMPLETE (FOR 50BCE)	
8	⚠1-162-171-11	HV, CAPACITOR 1000P	
9	4-026-213-00	CLAMP, CORD (UPPER)	
10	* 4-027-605-00	CLAMP, CORD (LOWER)	
11	3-630-837-00	BUSH, STAND-BY LAMP	
12	* 4-027-670-02	HOOK	

(2) CABINET AND CRT ASSEMBLY
(2) ブラウン管部

■: TA, BV3 × 8 7-685-646-71
●: TA, BV4 × 12 7-685-661-71
▲: TA, BV3 × 12 7-685-648-71
K3 × 8 7-682-248-09
K4 × 8 7-682-261-09
W4 7-688-004-11

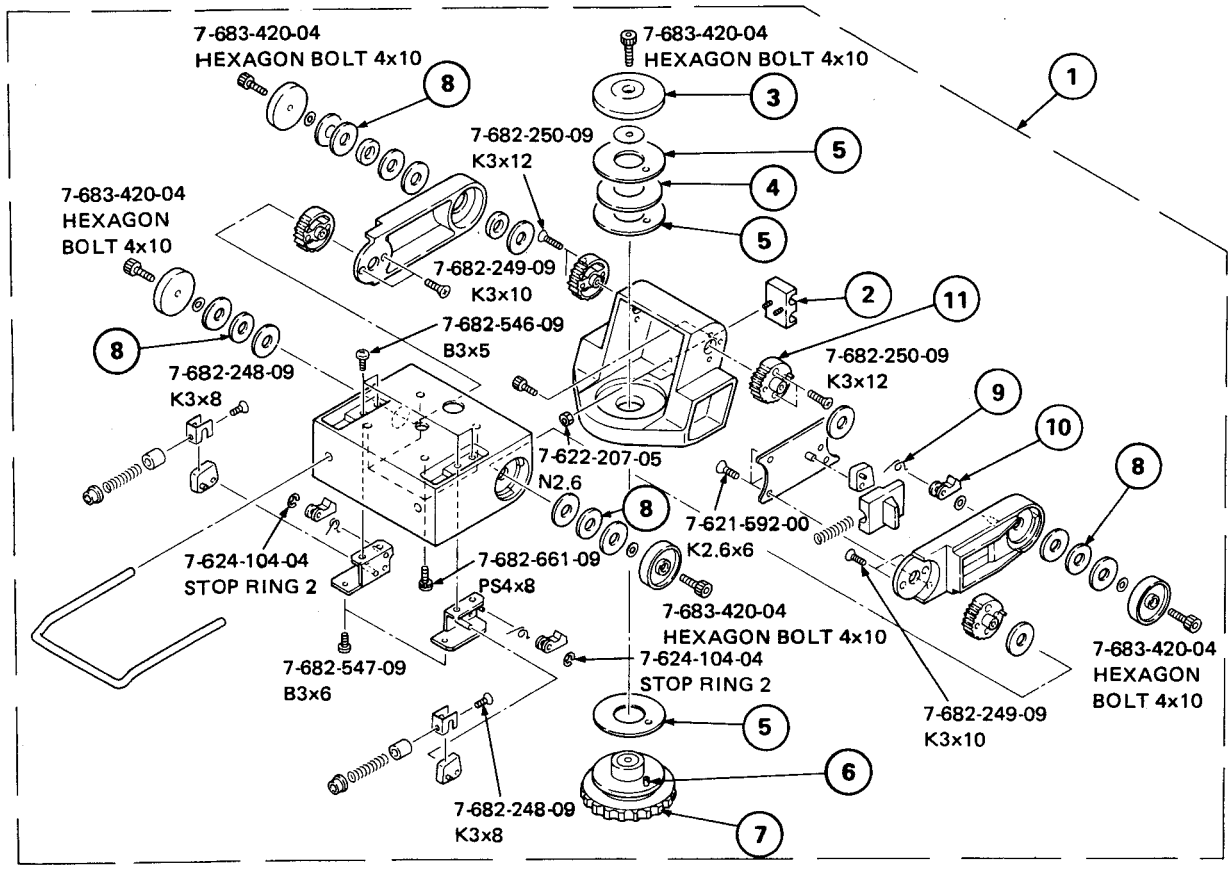


The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

Ref.No.	Part No.	Description	Remark
51	4-027-607-00	FILTER	
52	4-027-613-00	BEZEL	
53	3-308-829-11	SCREW, TAPPING, HEXAGON, HOLE	
54	* 1-609-896-00	J BOARD	
55	⚠1-546-052-00	CATHODE-RAY TUBE, B/W E2765B4	
56	⚠1-451-236-11	DEFLECTION YOKE, B/W	
57	* 1-609-891-00	C BOARD	
58	* 4-027-604-00	HANDLE	
59	* A-1345-419-A	E BOARD, COMPLETE	
60	4-027-612-12	CABINET (LOWER)	
61	* 4-027-609-00	PLATE	
62	* 4-027-655-00	LABEL, MODEL NUMBER (SMALL)	

(3) PAN HEAD ASSY, VF



Ref.No.	Part No.	Description	Remark
1	X-4027-610-2	PAN HEAD ASSY, VF	
2	* 3-664-545-11	CLAMP (2), CABLE	
3	* 4-027-645-01	RETAINER, PAN SHAFT	
4	* 4-027-627-01	SPRING (DIA 18)	
5	* 4-027-640-01	SPACER PAN	
6	* 4-027-630-01	STOPPER, PAN	
7	* X-4027-606-1	SHAFT ASSY, FITTING CAMERA	
8	* 4-027-628-01	SPRING (DIA 10)	
9	* 4-027-635-01	SPRING, NAIL	
10	* 4-027-634-01	CLAW, LOCK	
11	4-027-647-01	GEAR, TILT	

SECTION 8
ELECTRICAL PARTS LIST
8. 電気部品表

G C

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F: nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS
- MF: μF, PF: μμF

COILS
- MMH: mH, UH: μH

- The components identified by ⊠ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
Should replacement be required, replace only with the value originally used.

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*A-1316-029-A	G BOARD, COMPLETE			
		**********			
	1-533-087-00	HOLDER, FUSE			
		<CAPACITOR>			
C601	1-108-816-11	MYLAR	0.1MF	5%	50V
C602	1-124-120-11	ELECT	220MF	20%	25V
C603	1-102-106-00	CERAMIC	100PF	10%	50V
C604	1-102-115-00	CERAMIC	560PF	10%	50V
C605	1-131-370-00	TANTALUM	6.8MF	20%	16V
C606	1-131-381-00	TANTALUM	47MF	20%	6.3V
C607	1-131-368-00	TANTALUM	3.3MF	20%	16V
C608	1-124-479-11	ELECT	330MF	20%	25V
C609	1-108-816-11	MYLAR	0.1MF	5%	50V
C610	1-108-816-11	MYLAR	0.1MF	5%	50V
C611	1-124-119-00	ELECT	330MF	20%	16V
C612	1-124-120-11	ELECT	220MF	20%	16V
C613	1-108-816-11	MYLAR	0.1MF	5%	50V
C614	1-124-477-11	ELECT	47MF	20%	16V
C615	1-124-120-11	ELECT	220MF	20%	16V
C616	1-102-074-00	CERAMIC	0.001MF	10%	50V
		<DIODE>			
D601	8-719-109-97	DIODE RD6.8ESB2			
D602	8-719-109-81	DIODE RD4.7ESB2			
D603	8-719-110-03	DIODE RD7.5ESB2			
D604	8-719-981-00	DIODE ERC81-004			
D605	8-719-911-19	DIODE 1SS119			
		<CONNECTOR>			
G1	*1-508-797-00	PIN, CONNECTOR 4P			
G2	*1-560-295-00	PIN, CONNECTOR 7P			
G3	*1-560-466-00	PIN, CONNECTOR 3P			
		<IC>			
IC601	8-759-133-90	IC UPC339C			
		<COIL>			
L601	1-421-612-00	COIL, NOISE FILTER			
L602	1-421-612-00	COIL, NOISE FILTER			
L604	1-421-612-00	COIL, NOISE FILTER			
L605	1-421-612-00	COIL, NOISE FILTER			
L803	1-421-613-00	COIL, NOISE FILTER			
		<TRANSISTOR>			
Q601	8-729-140-97	TRANSISTOR 2SB734-34			
Q602	8-729-140-97	TRANSISTOR 2SB734-34			
Q603	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q604	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q605	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q606	8-729-119-78	TRANSISTOR 2SC2785-HFE			
		<RESISTOR>			
R601	1-247-749-11	CARBON	560	5%	1/2W
R602	1-249-412-11	CARBON	390	5%	1/4W
R603	1-249-426-11	CARBON	5.6K	5%	1/4W
R604	1-249-434-11	CARBON	27K	5%	1/4W
R605	1-249-434-11	CARBON	27K	5%	1/4W
R606	1-249-434-11	CARBON	27K	5%	1/4W
R607	1-249-434-11	CARBON	27K	5%	1/4W
R608	1-247-843-31	CARBON	3.3K	5%	1/4W
R609	1-249-431-11	CARBON	15K	5%	1/4W
R610	1-247-839-31	CARBON	2.2K	5%	1/4W
R611	1-249-416-11	CARBON	820	5%	1/4W
R612	1-249-411-11	CARBON	330	5%	1/4W
R613	1-247-872-11	CARBON	51K	5%	1/4W
R614	1-247-901-11	CARBON	820K	5%	1/4W
R615	1-249-416-11	CARBON	820	5%	1/4W
R616	1-214-750-00	METAL	7.5K	1%	1/4W
⊠R617 ⚠		METAL			1/4W
R618	1-249-408-11	CARBON	180	5%	1/4W
R619	1-249-411-11	CARBON	330	5%	1/4W
R620	1-249-408-11	CARBON	180	5%	1/4W
R621	1-249-411-11	CARBON	330	5%	1/4W
R622	1-247-743-11	CARBON	220	5%	1/2W
R623	1-249-414-11	CARBON	560	5%	1/4W
R624	1-249-430-11	CARBON	12K	5%	1/4W
R625	1-247-855-31	CARBON	10K	5%	1/4W
R626	1-247-816-11	CARBON	240	5%	1/4W
R627	1-249-433-11	CARBON	22K	5%	1/4W
R628	1-249-433-11	CARBON	22K	5%	1/4W
R629	1-249-414-11	CARBON	560	5%	1/4W
		<VARIABLE RESISTOR>			
RV601	1-237-515-21	RES, ADJ, CERMET 1K			
		**********			
	*1-609-891-00	C BOARD			
		*******			
	1-526-521-99	SOCKET, ELECTRONIC TUBE			
		<CAPACITOR>			

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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Ne les remplacer que par une piece portant le numero specifie.

• The components identified by ⊠ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
Should replacement be required, replace only with the value originally used.

C E D

REF.NO.	PART NO.	DESCRIPTION				REMARK
C431	1-108-642-11	MYLAR	0.22MF	10%	100V	
C432	1-108-638-11	MYLAR	0.1MF	10%	100V	
C433	1-136-601-11	FILM	0.01MF	5%	630V	
C434	1-136-601-11	FILM	0.01MF	5%	630V	
		<RESISTOR>				
R431	1-249-469-11	SOLID	100K	10%	1/4W	
R432	1-247-711-11	SOLID	680	10%	1/4W	
R433	1-247-721-11	SOLID	4.7K	10%	1/4W	
R434	1-202-815-11	SOLID	47K	10%	1/2W	
R435	1-202-815-11	SOLID	47K	10%	1/2W	
		<SPARK GAP>				
SG431	1-519-063-99	DISCHARGING GAP				
SG432	1-519-063-99	DISCHARGING GAP				
SG433	1-519-063-99	DISCHARGING GAP				
**********						
	*A-1345-419-A	E BOARD, COMPLETE				
		**********				
	*4-314-225-00	HEAT SINK, (A)				
		<CAPACITOR>				
C802	1-108-792-11	MYLAR	0.001MF	5%	50V	
C803	1-124-120-11	ELECT	220MF	20%	16V	
C804	1-130-895-00	FILM	0.056MF	5%	400V	
C805	1-124-460-00	ELECT	10MF	20%	25V	
C806	1-124-460-00	ELECT	10MF	20%	25V	
C807	1-108-792-11	MYLAR	0.001MF	5%	50V	
C808	1-136-601-11	FILM	0.01MF	5%	630V	
C809 ⚠	1-130-959-51	FILM	0.047MF	5%	400V	
C810	1-124-046-00	ELECT	10MF	20%	160V	
C811	1-136-601-11	FILM	0.01MF	5%	630V	
C812	1-124-477-11	ELECT	47MF	20%	25V	
C813	1-124-360-00	ELECT	1000MF	20%	16V	
C814	1-130-489-00	MYLAR	0.033MF	5%	50V	
C816	1-108-796-11	MYLAR	0.0022MF	5%	50V	
C817	1-123-268-11	ELECT	3.3MF	20%	160V	
C818	1-124-120-11	ELECT	220MF	20%	16V	
		<DIODE>				
D801	8-719-908-19	DIODE U06E				
D802	8-719-908-19	DIODE U06E				
D803	8-719-300-70	DIODE RH-1C				
D804	8-719-300-70	DIODE RH-1C				
D805	8-719-300-70	DIODE RH-1C				
D806	8-719-911-19	DIODE 1SS119				
D807	8-719-109-89	DIODE RD5.6ESB2				
D809	8-719-911-19	DIODE 1SS119				
D810	8-719-911-19	DIODE 1SS119				
D811	8-719-908-19	DIODE U06E				
D812	8-719-300-70	DIODE RH-1C				
D813	8-719-300-70	DIODE RH-1C				
		<CONNECTOR>				
E2	*1-560-467-00	PIN, CONNECTOR 4P				
E4	*1-560-466-00	PIN, CONNECTOR 3P				
E5	*1-560-466-00	PIN, CONNECTOR 3P				
E6	*1-560-591-00	PIN, CONNECTOR 7P				

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<IC>				
IC801	8-759-174-11	IC UPC741C				
		<COIL>				
L801	1-460-148-11	COIL, VARIABLE (HWC)				
L802	1-459-470-00	COIL, HORIZONTAL LINEARITY				
L804	1-408-231-00	INDUCTOR	1MMH			
		<TRANSISTOR>				
Q801	8-729-137-32	TRANSISTOR 2SC2373-L				
Q802	8-729-137-32	TRANSISTOR 2SC2373-L				
Q803	8-729-385-82	TRANSISTOR 2SB858-C				
Q804	8-729-119-78	TRANSISTOR 2SC2785-HFE				
		<RESISTOR>				
R801	1-247-727-11	CARBON	10	5%	1/2W	F
R802	1-216-355-11	METAL OXIDE	3.3	5%	1W	F
R803	1-247-752-11	CARBON	1K	5%	1/2W	
R804	1-247-752-11	CARBON	1K	5%	1/2W	
R805	1-216-354-11	METAL OXIDE	2.7	5%	1W	F
R806	1-247-100-00	CARBON	4.7	5%	1/2W	F
R807	1-247-758-11	CARBON	3.3K	5%	1/2W	
⊠R808 ⚠		METAL			1/4W	
R809	1-247-855-31	CARBON	10K	5%	1/4W	
R816	1-249-413-11	CARBON	470	5%	1/4W	
R817	1-210-825-00	CARBON	3.3M	5%	1/4W	
R818	1-247-839-31	CARBON	2.2K	5%	1/4W	
R819	1-247-855-31	CARBON	10K	5%	1/4W	
		<VARIABLE RESISTOR>				
RV801	1-226-114-00	RES, ADJ, METAL GLAZE 2.2M				
		<TRANSFORMER>				
T801	1-437-143-00	TRANSFORMER, FERRITE (HDT)				
T802	1-439-319-00	TRANSFORMER, FERRITE (HOT)				
T803 ⚠	1-439-323-11	TRANSFORMER ASSY, FLYBACK				
**********						
	*A-1345-418-A	D BOARD, COMPLETE (DXF-50BJ)				
		**********				
	*A-1345-420-A	D BOARD, COMPLETE (DXF-50B)				
		**********				
	*A-1345-422-A	D BOARD, COMPLETE (DXF-50BCE)				
		**********				
		<CAPACITOR>				
C301	1-124-907-11	ELECT	10MF	20%	50V	
C302	1-102-942-00	CERAMIC	5PF	1PF	50V	
C303	1-124-120-11	ELECT	220MF	20%	16V	
C304	1-124-120-11	ELECT	220MF	20%	16V	
C305	1-124-927-11	ELECT	4.7MF	20%	50V	
C306	1-126-103-11	ELECT	470MF	20%	16V	
C307	1-126-101-11	ELECT	100MF	20%	16V	
C308	1-102-114-00	CERAMIC	470PF	10%	50V	
C309	1-102-107-00	CERAMIC	120PF	10%	50V	
C310	1-124-903-11	ELECT	1MF	20%	50V	

D

REF.NO.	PART NO.	DESCRIPTION				REMARK
C401	1-126-772-11	ELECT	1MF		250V	
C402	1-124-667-11	ELECT	10MF	20%	100V	
C403	1-102-110-00	CERAMIC	220PF	10%	50V	
C405	1-102-108-00	CERAMIC	150PF	10%	50V	
C501	1-108-816-11	MYLAR	0.1MF	5%	50V	
C502	1-124-903-11	ELECT	1MF	20%	50V	
C503	1-124-120-11	ELECT	220MF	20%	16V	
C504	1-124-903-11	ELECT	1MF	20%	50V	
C505	1-124-119-00	ELECT	330MF	20%	16V	
C507	1-130-485-00	MYLAR	0.015MF	5%	50V	
C508	1-108-626-11	MYLAR	0.01MF	10%	100V	
C509	1-131-347-00	TANTALUM	1MF	20%	25V	
C510	1-130-485-00	MYLAR	0.015MF	5%	50V	
C511	1-104-310-11	POLYSTYRENE	0.0022MF	10%	50V	
C512	1-108-792-11	MYLAR	0.001MF	5%	50V	
C513	1-106-359-00	MYLAR	0.0047MF	5%	50V	
C514	1-108-792-11	MYLAR	0.001MF	5%	50V	
C516	1-102-107-00	CERAMIC	120PF	10%	50V	(DXF-50BCE)
	1-102-961-00	CERAMIC	27PF	5%	50V	(DXF-50B/50BJ)
C551	1-108-808-11	MYLAR	0.022MF	5%	50V	
C552	1-108-808-11	MYLAR	0.022MF	5%	50V	
C553	1-130-483-00	MYLAR	0.01MF	5%	50V	
C554	1-131-345-00	TANTALUM	0.47MF	20%	35V	
C555	1-124-482-11	ELECT	33MF	20%	25V	
C556	1-131-363-00	TANTALUM	4.7MF	20%	16V	
C557	1-131-363-00	TANTALUM	4.7MF	20%	16V	
C558	1-124-907-11	ELECT	10MF	20%	50V	
C559	1-124-119-00	ELECT	330MF	20%	16V	(DXF-50B/50BJ)
	1-126-103-11	ELECT	470MF	20%	16V	(DXF-50BCE)
C560	1-124-120-11	ELECT	220MF	20%	16V	
C561	1-126-103-11	ELECT	470MF	20%	16V	
C562	1-108-816-11	MYLAR	0.1MF	5%	50V	
C563	1-102-110-00	CERAMIC	220PF	10%	50V	
C564	1-102-107-00	CERAMIC	120PF	10%	50V	
C565	1-108-808-11	MYLAR	0.022MF	5%	50V	
C815	1-124-907-11	ELECT	10MF	20%	50V	

<CONNECTOR>

D1	*1-508-796-00	PIN, CONNECTOR 2P	
D2	*1-560-459-00	PIN, CONNECTOR 3P	(DXF-50B/50BCE)
	*1-560-466-00	PIN, CONNECTOR 3P	(DXF-50BJ)
D3	*1-560-468-00	PIN, CONNECTOR 5P	
D4	*1-560-467-00	PIN, CONNECTOR 4P	
D5	*1-560-459-00	PIN, CONNECTOR 3P	(DXF-50BJ)
	*1-560-466-00	PIN, CONNECTOR 3P	(DXF-50B/50BCE)
D6	*1-560-467-00	PIN, CONNECTOR 4P	
D7	1-508-742-00	PIN, CONNECTOR 3P	
D8	*1-508-796-00	PIN, CONNECTOR 2P	

<DIODE>

D401	8-719-815-85	DIODE 1S1585
D402	8-719-900-63	DIODE V06C
D403	8-719-815-85	DIODE 1S1585
D404	8-719-911-19	DIODE 1SS119
D551	8-719-200-02	DIODE 10E-2
D552	8-719-911-19	DIODE 1SS119
D553	8-719-911-19	DIODE 1SS119
D808	8-719-110-22	DIODE RD11ESB2

REF.NO.	PART NO.	DESCRIPTION				REMARK

<IC>

IC501	8-759-400-08	IC AN5753
IC551	8-759-400-09	IC AN5763

<COIL>

L401	1-408-117-00	INDUCTOR	10UH

<TRANSISTOR>

Q301	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q302	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q303	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q304	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q305	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q306	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q307	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q401	8-729-255-12	TRANSISTOR 2SC2551-O
Q501	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q551	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q552	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q805	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q806	8-719-000-28	THYRISTOR CR02AM-8

<RESISTOR>

R300	1-247-807-31	CARBON	100	5%	1/4W	
R301	1-249-417-11	CARBON	1K	5%	1/4W	
R302	1-249-440-11	CARBON	82K	5%	1/4W	
R303	1-249-417-11	CARBON	1K	5%	1/4W	
R304	1-247-862-11	CARBON	20K	5%	1/4W	
R305	1-249-401-11	CARBON	47	5%	1/4W	
R306	1-215-864-00	METAL OXIDE	150	5%	1W	F
R307	1-249-395-11	CARBON	15	5%	1/4W	
R308	1-247-807-31	CARBON	100	5%	1/4W	
R309	1-249-426-11	CARBON	5.6K	5%	1/4W	
R310	1-249-432-11	CARBON	18K	5%	1/4W	
R311	1-249-417-11	CARBON	1K	5%	1/4W	
R312	1-247-807-31	CARBON	100	5%	1/4W	
R313	1-249-441-11	CARBON	100K	5%	1/4W	
R314	1-249-419-11	CARBON	1.5K	5%	1/4W	
R315	1-249-410-11	CARBON	270	5%	1/4W	
R316	1-247-807-31	CARBON	100	5%	1/4W	
R317	1-249-417-11	CARBON	1K	5%	1/4W	
R318	1-247-847-31	CARBON	4.7K	5%	1/4W	
R319	1-247-839-31	CARBON	2.2K	5%	1/4W	
R320	1-249-417-11	CARBON	1K	5%	1/4W	
R321	1-247-807-31	CARBON	100	5%	1/4W	
R322	1-247-839-31	CARBON	2.2K	5%	1/4W	
R323	1-247-839-31	CARBON	2.2K	5%	1/4W	
R324	1-247-807-31	CARBON	100	5%	1/4W	
R401	1-206-679-00	METAL OXIDE	4.3K	5%	2W	F
R402	1-249-411-11	CARBON	330	5%	1/4W	
R404	1-249-424-11	CARBON	3.9K	5%	1/4W	
R405	1-249-435-11	CARBON	33K	5%	1/4W	
R501	1-247-855-31	CARBON	10K	5%	1/4W	
R502	1-249-430-11	CARBON	12K	5%	1/4W	
R503	1-249-413-11	CARBON	470	5%	1/4W	
R504	1-247-889-00	CARBON	270K	5%	1/4W	
R505	1-249-417-11	CARBON	1K	5%	1/4W	
R507	1-249-417-11	CARBON	1K	5%	1/4W	
R508	1-215-885-00	METAL OXIDE	68	5%	2W	F

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

• The components identified by ⊠ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
Should replacement be required, replace only with the value originally used.

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REF.NO.	PART NO.	DESCRIPTION				REMARK
R509	1-247-862-11	CARBON	20K	5%	1/4W	
R510	1-249-422-11	CARBON	2.7K	5%	1/4W	
R511	1-249-434-11	CARBON	27K	5%	1/4W	
R512	1-249-424-11	CARBON	3.9K	5%	1/4W	
R513	1-249-434-11	CARBON	27K	5%	1/4W	
R514	1-247-809-31	CARBON	120	5%	1/4W	
R551	1-247-847-31	CARBON	4.7K	5%	1/4W	
R552	1-247-839-31	CARBON	2.2K	5%	1/4W	
R553	1-249-436-11	CARBON	39K	5%	1/4W	
R554	1-249-391-11	CARBON	6.8	5%	1/4W	
R555	1-216-349-00	METAL OXIDE	1	5%	1W	F
R556	1-247-881-00	CARBON	120K	5%	1/4W	
R557	1-249-419-11	CARBON	1.5K	5%	1/4W	
R558	1-216-351-00	METAL OXIDE	1.5	5%	1W	F
R559	1-247-706-11	CARBON	330	5%	1/4W	
R560	1-249-431-11	CARBON	15K	5%	1/4W	
R561	1-249-438-11	CARBON	56K	5%	1/4W	
R562	1-249-414-11	CARBON	560	5%	1/4W	
R563	1-249-426-11	CARBON	5.6K	5%	1/4W	
R564	1-249-419-11	CARBON	1.5K	5%	1/4W	
R565	1-247-688-11	CARBON	10	5%	1/4W	
R811	1-249-424-11	CARBON	3.9K	5%	1/4W	
R812	1-249-417-11	CARBON	1K	5%	1/4W	
R813	1-249-414-11	CARBON	560	5%	1/4W	
R814	1-247-839-31	CARBON	2.2K	5%	1/4W	
⊠R815 ⚠		CARBON			1/4W	
		<VARIABLE RESISTOR>				
RV401	1-237-521-21	RES, ADJ, CERMET 100K				
RV402	1-237-521-21	RES, ADJ, CERMET 100K				
RV501	1-237-515-21	RES, ADJ, CERMET 1K				
RV551	1-237-521-21	RES, ADJ, CERMET 100K				
RV552	1-237-518-21	RES, ADJ, CERMET 10K				
RV553	1-237-521-21	RES, ADJ, CERMET 100K				
		**********				
	*1-609-894-00	H BOARD				
		*******				
		<VARIABLE RESISTOR>				
RV901	1-226-844-00	RES, VAR, CARBON 50K				
RV902	1-226-841-00	RES, VAR, CARBON 1K				
RV903	1-230-150-00	RES, VAR, CARBON 5K				
		**********				
	*1-609-896-00	J BOARD				
		*******				
		<DIODE>				
D301	8-719-901-96	DIODE SLP161B				
D302	8-719-901-96	DIODE SLP161B				
		<SWITCH>				
SW301	1-554-562-00	SWITCH, TOGGLE				
SW302	1-554-563-00	SWITCH, TOGGLE				
		<VARIABLE RESISTOR>				
RV301	1-237-520-21	RES, ADJ, CERMET 50K				
RV302	1-237-517-21	RES, ADJ, CERMET 5K				
		**********				
	*A-1373-006-A	U BOARD, COMPLETE (DXF-50B/50BJ)				
		**********				
	*A-1373-012-A	U BOARD, COMPLETE (DXF-50BCE)				
		**********				
		<CAPACITOR>				
C311	1-130-483-00	MYLAR	0.01MF	5%	50V	
C312	1-130-483-00	MYLAR	0.01MF	5%	50V	
C313	1-102-973-00	CERAMIC	100PF	5%	50V	
C314	1-108-812-11	MYLAR	0.047MF	5%	50V	
C315	1-104-238-00	POLYSTYRENE	0.001MF	5%	160V	
C316	1-102-973-00	CERAMIC	100PF	5%	50V	
C317	1-102-959-00	CERAMIC	22PF	5%	50V	
C318	1-126-101-11	ELECT	100MF	20%	16V	
C319	1-101-804-00	CERAMIC	10PF	5%	500V	
C320	1-108-816-11	MYLAR	0.1MF	5%	50V	
		<DIODE>				
D301	8-719-911-19	DIODE 1SS119				
D302	8-719-911-19	DIODE 1SS119				
D303	8-719-911-19	DIODE 1SS119				
D304	8-719-911-19	DIODE 1SS119				
D305	8-719-911-19	DIODE 1SS119				
D306	8-719-911-19	DIODE 1SS119				
D308	8-719-911-19	DIODE 1SS119				
D311	8-719-911-19	DIODE 1SS119				
D313	8-719-911-19	DIODE 1SS119				
		<IC>				
IC301	8-759-345-38	IC HD14538BP				
IC302	8-759-345-38	IC HD14538BP				
IC303	8-759-240-40	IC TC4040BP				
		<LAMP>				
PL901	1-518-284-00	LAMP				
		<TRANSISTOR>				
Q308	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q309	8-729-255-12	TRANSISTOR 2SC2551-O				
Q310	8-729-255-12	TRANSISTOR 2SC2551-O				
Q311	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q312	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q313	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q314	8-729-200-17	TRANSISTOR 2SA1091-O				
Q315	8-729-119-78	TRANSISTOR 2SC2785-HFE				
		<RESISTOR>				
R325	1-247-855-31	CARBON	10K	5%	1/4W	
R326	1-247-847-31	CARBON	4.7K	5%	1/4W	
R327	1-247-839-31	CARBON	2.2K	5%	1/4W	
R328	1-247-839-31	CARBON	2.2K	5%	1/4W	
R329	1-249-437-11	CARBON	47K	5%	1/4W	
R330	1-247-855-31	CARBON	10K	5%	1/4W	(DXF-50B/50BJ)
	1-249-438-11	CARBON	56K	5%	1/4W	(DXF-50BCE)

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

U

REF.NO.	PART NO.	DESCRIPTION				REMARK
R331	1-249-432-11	CARBON	18K	5%	1/4W	
R332	1-247-864-11	CARBON	24K	5%	1/4W	
R333	1-247-847-31	CARBON	4.7K	5%	1/4W	
R334	1-247-847-31	CARBON	4.7K	5%	1/4W	
R335	1-249-413-11	CARBON	470	5%	1/4W	
R336	1-249-417-11	CARBON	1K	5%	1/4W	
R337	1-249-433-11	CARBON	22K	5%	1/4W	
R338	1-249-437-11	CARBON	47K	5%	1/4W	
R339	1-249-433-11	CARBON	22K	5%	1/4W	
R340	1-249-435-11	CARBON	33K	5%	1/4W	
R341	1-247-839-31	CARBON	2.2K	5%	1/4W	
R342	1-249-433-11	CARBON	22K	5%	1/4W	
R343	1-249-433-11	CARBON	22K	5%	1/4W	
R344	1-249-433-11	CARBON	22K	5%	1/4W	
R345	1-247-839-31	CARBON	2.2K	5%	1/4W	
R346	1-249-433-11	CARBON	22K	5%	1/4W	
R347	1-247-847-31	CARBON	4.7K	5%	1/4W	
R348	1-215-875-11	METAL OXIDE	10K	5%	1W	F
R349	1-247-839-31	CARBON	2.2K	5%	1/4W	
R350	1-247-847-31	CARBON	4.7K	5%	1/4W	
R351	1-247-855-31	CARBON	10K	5%	1/4W	
R352	1-247-847-31	CARBON	4.7K	5%	1/4W	
		<CONNECTOR>				
U1	*1-560-467-00	PIN, CONNECTOR 4P				
U2	*1-560-471-00	PIN, CONNECTOR 10P				

****

MISCELLANEOUS
****

⚠.1-451-236-11	DEFLECTION YOKE, B/W	
⚠.1-532-203-11	FUSE, TIME-LAG (2.0A/250V) (DXF-50BCE)	
⚠.1-532-436-11	FUSE, GLASS TUBE (2.0A/125V) (DXF-50BJ)	
⚠.1-532-578-11	FUSE, GLASS TUBE (2.0A/125V) (DXF-50B)	
⚠.1-546-052-00	CATHODE-RAY TUBE, B/W	
1-556-924-21	CORD (WITH DIN PLUG)	
C901 ⚠.1-162-171-11	CAP BLOCK, HIGH-VOLTAGE 1000PF	

****

ACCESSORIES AND PACKING MATERIALS
****

X-4027-610-0	PAN HEAD ASSY, VF	
3-336-617-01	BAG, PROTECTION	
*3-533-397-03	BAG, POLYETHYLENE	
*3-664-545-11	CLAMP, CABLE	
3-701-613-00	BAG, POLYETHYLENE	
3-758-421-01	MANUAL (SMALL), INSTRUCTION (DXF-50BJ)	
3-758-421-11	MANUAL (SMALL), INSTRUCTION (DXF-50BCE)	
3-758-421-21	MANUAL (SMALL), INSTRUCTION (DXF-50B)	
*4-027-627-01	SPRING (DIA. 18)	
*4-027-628-01	SPRING (DIA. 10)	
*4-027-630-01	STOPPER, PAN	
4-027-634-01	CLAW, LOCK	
*4-027-640-01	SPACER, PAN	
*4-027-645-01	RETAINER, PAN SHAFT	
4-027-647-01	GEAR, TILT	
*4-027-663-01	CUSHION (UPPER)	
*4-027-664-01	BOX, ACCESSORY	
*4-027-665-00	CUSHION (LOWER)	
*4-043-552-01	INDIVIDUAL CARTON (DXF-50BJ)	
*4-043-553-01	INDIVIDUAL CARTON (DXF-50B)	
*4-043-555-01	INDIVIDUAL CARTON (DXF-50BCE)	

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